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ABSTRACT

This tech prep planning handbook is based on the research conducted at the Office of Community College Research and Leadership, University of Illinois at Urbana-Champaign. The study involved information gathering procedures at each of the 17 tech prep pilot sites about their planning activities. Seven sections are included: (1) tech prep in Illinois; (2) applying the tech prep planning process; (3) involving key groups in planning tech prep; (4) developing the components of tech prep--local policies, staff development, articulated curriculum, curriculum development, written agreements, guidance and counseling, marketing, and business/industry collaboration; (5) putting tech prep into action; (6) evaluating the tech prep plan; and (7) four appendices--contributors, words of advice, 1990-1991 Tech Prep Initiatives' Profiles, and 15 suggested resources. (NLA)

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Illinois Tech Prep Planning Strategies

Illinois
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Foreword

The Illinois State Board of Education (ISBE) is committed to making Tech Prep a major part of our reform initiatives. In 1990, the State Board began its promise to educational reform by funding 17 local Tech Prep planning projects. Illinois Tech Prep represents an educational initiative that integrates college preparatory coursework with a rigorous technical education concentration. It is a planned sequence of courses, both academic and technical, that begins at 9th grade and is articulated with a postsecondary experience leading to an associate of applied science degree. Because Tech Prep prepares students for a lifetime of learning, it also provides preparation for advanced education. Tech Prep prepares students with the skills and competencies necessary to meet employers' performance standards not only for entry-level jobs, but also for career advancement. Tech Prep builds meaningful partnerships among educators and employers, academic and technical faculties, and secondary schools and postsecondary institutions.

This Tech Prep planning handbook is based on the research conducted for the ISBE at the Office of Community College Research and Leadership, University of Illinois at Urbana-Champaign. The study involved thorough information gathering procedures at each of the 17 Tech Prep pilot sites about their planning activities.

We wish to thank those who participated in this important study, especially the project directors of the Tech Prep planning initiatives whose contributions in time and talent created the foundation for the handbook. These planning initiatives, along with their project directors, are identified in Appendix C.

Appreciation is also extended to the Office of Community College Research and Leadership under the direction of Dr. Debra Bragg, Assistant Professor in the College of Education, Ms. Glenda Huffman, Project Coordinator, and Ms. Lois Hamilton and Ms. Deborah Hlavna, who assisted in the development of the handbook. Thanks are also extended to the many reviewers who offered their insight and energy in making the final product valuable to future Tech Prep planners in Illinois.

Robert Leininger

Robert Leininger, State Superintendent of Education
Illinois State Board of Education

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Tech Prep in Illinois

Tech Prep in Illinois

The Technical Preparation Associate Degree (TPAD or Tech Prep) initiative has top leadership support in Illinois. Educational leaders are committed to state and local Tech Prep initiatives that can improve the quality of secondary and postsecondary education. State Superintendent of Education, Robert Leininger, describes Tech Prep as a priority for Illinois. He explains, "If we want our state to be able to participate in a global economy, we must first prepare our students for a lifetime of learning new skills for the workplace. Tech Prep gives students that edge."

Richard Miguel, Assistant Superintendent for Adult, Vocational and Technical Education, states that Tech Prep will be the "impetus for and cornerstone of vocational education reform during the next five years." Cary Israel, Executive Director of the Illinois Community College Board states, "The comprehensive learning systems being built through Tech Prep partnerships will ensure that our educational system produces quality outcomes for the future of our state."

Several trends reinforce the importance of carrying out Tech Prep initiatives. Tech Prep is needed in Illinois, and furthermore across the nation, to help address serious problems created by:

- rapid advancements in technology
- global economic competition
- dramatic changes in the workplace
- deficits in workplace basic skills
- high dropout rates from secondary schools

Tech Prep addresses these potentially serious problems through partnerships with the key stakeholder groups: educators and employers. As stated by Richard Miguel,

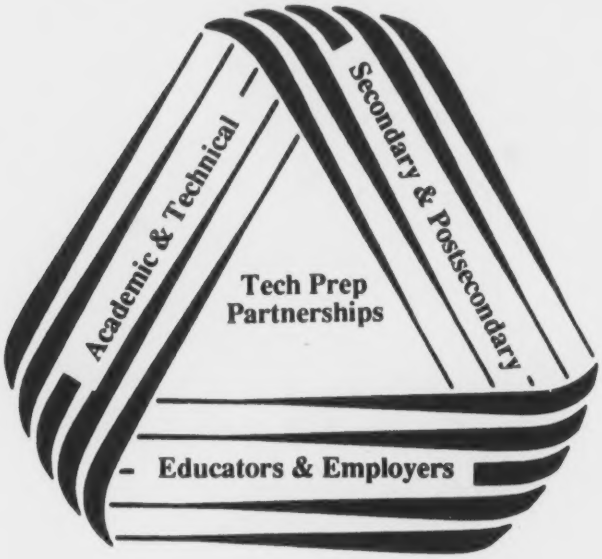
> Tech Prep addresses most, if not all, of the major problem areas of vocational education today. It incorporates an academic component, articulates programs to the postsecondary level, involves participation from the private sector and labor, and increases the rigor of vocational programs.

Tech Prep cannot be thought of as a quick fix. In order for Tech Prep to be successful over the long term, it must be initiated through committed 50/50 partnerships, which require time to grow into meaningful and productive relationships.

50/50 Partnerships

To ensure the success of Tech Prep, the Illinois State Board of Education (ISBE) requires the development of committed 50/50 partnerships between:

- **Academic and Technical Educators** - to facilitate interdisciplinary cooperation and stimulate academic and technical education curriculum integration.
- **Secondary and Postsecondary Educators** - to enhance opportunities for students to move smoothly from one level of education to another (e.g., high school to community college or community college to university) without duplication of effort; and to share resources that increase students' overall educational experience.
- **Employers and Educators** - to clearly communicate and establish performance standards for technical and academic areas to ensure that Tech Prep graduates are ready to contribute productively to the economy.



Tech Prep Defined in Illinois

To provide general understanding about Tech Prep in Illinois, the ISBE defines Tech Prep in the following way:

> Illinois Tech Prep represents an educational path that integrates college preparatory coursework with a rigorous technical education concentration. It is a planned sequence of courses, both academic and technical, that begins at 9th grade and is articulated with a postsecondary experience leading to an associate of applied science degree. Because Tech Prep prepares students for a lifetime of learning, it also provides preparation for advanced education such as a four-year baccalaureate degree. Tech Prep prepares students with the skills and competencies necessary to meet employers' performance standards not only for entry-level jobs, but also for career advancement.

This definition supports and extends the meaning of the initiative in the Tech Prep Education Act of the Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990.

What Tech Prep in Illinois Is and Is Not

Tech Prep planners in Illinois have developed firm ideas about what Tech Prep is and is not.

Tech Prep Is ...	Tech Prep Is Not ...
● An avenue to educational reform	● The same approach to education but with a new name
● The integration of technical and academic curriculum	● Vocational-technical education only
● A secondary and postsecondary articulated curriculum	● Secondary or postsecondary education only
● An avenue to an associate of applied science degree and possibly more advanced education	● A terminal education program
● Partnerships between all levels of education and business/industry	● An isolated 'track' approach to education
● Preparation for employment, careers, and continuing education	● Entry-level job preparation only

Students Served

Tech Prep initiatives are of little value if they do not significantly improve the educational experiences of students in Illinois' secondary and postsecondary educational institutions. Typically, students who participate in Tech Prep are:

- 25th to 75th percentile in academic ability
- comfortable using math and science to solve problems
- capable performers in technical and scientific courses
- aspiring to complete postsecondary education
- attracted to careers in growth occupations

Local programs are also encouraged to establish other criteria for student participation. In all cases, the ISBE encourages local Tech Prep initiatives to provide support services to assist all students, including special populations, to obtain the competencies they need to be successful in admission into and participation in Tech Prep.

Tech Prep Expectations

Tech Prep must be seen as a school reform effort involving the entire educational community at both the secondary and postsecondary levels. Tech Prep reform will not occur quickly or without local effort and commitment. State and federal resources to support Tech Prep are simply *seed* money to be used as a catalyst to leverage local resources and initiate statewide reform.

The ISBE has identified expectations for the first year of Tech Prep planning. At a *minimum*, Tech Prep projects must address the following elements during the planning year:

1. Tech Prep should have rigorous expectations which, upon completion, will result in career opportunities providing growth and upward mobility for all students. Secondary Tech Prep programs will integrate technical and academic education so students gain skills necessary to succeed in college and the workplace.

   a. Demonstrate a substantial commitment to Tech Prep from chief executive officers (CEOs), regional administrators, building administrators, counselors, and involved staff at both secondary and postsecondary levels. This includes locally supported staff development, joint planning time for staff, targeting sources of funds to support Tech Prep, and released time for staff development.

   b. Provide a written description of the expected role of secondary and postsecondary staff involved in Tech Prep (academic and vocational instructors, counselors, administrators, and others).

   c. Be prepared to implement at least one Tech Prep course at each site during the second year. Implementation involves students who are completing lessons in which academic and vocational content and teaching methods have been revised to meet the Tech Prep philosophy of application and integrated learning.

d. Obtain administrative support for implementation by having the CEOs, regional officers, regional system board of control chair(s), and principals of participating high schools sign implementation agreements.

2. Tech Prep programs will provide students with a sequence of academic and vocational-technical courses that are integrated and complementary in nature.

   a. Provide evidence of curriculum planning to reflect Tech Prep concepts and applied learning. This could be minutes and agendas from curricular planning team meetings, adoption of applied academics courses, evidence of cooperative or team teaching, or integrated course content, lesson plans, and syllabus.

   b. Develop a written inservice plan, with timelines, to address staff development needs of academic and vocational faculty, counselors and administrators at all levels. This plan should result in staff understanding applied learning, integration, cooperative learning, and Tech Prep concepts. Evidence of joint secondary/postsecondary inservice should be included.

   c. Provide evidence of regularly scheduled joint meetings where vocational and academic instructors have worked on curriculum revision, teaching styles, integration, etc.

   d. Identify academic and vocational instructors and courses at each secondary site as "Tech Prep."

   e. Show evidence of academic and technical faculty involvement in the development of a plan for each secondary and community college site to integrate academic and technical content.

   f. Provide evidence that developed programs are articulated from the secondary to postsecondary to university levels. Include both academic and vocational courses in articulation activities.

   g. Develop a written plan for secondary and postsecondary instructors across disciplines to participate in joint planning periods and common inservice meetings.

3. Attainment of a secondary Tech Prep certificate or completion of a Tech Prep associate of applied science degree will be available for students able to meet requirements. All students within the region/college district will be provided with a means to participate.

   a. Develop a long-range plan to involve all delivery sites within the region or college district.

   b. Develop entrance criteria to identify Tech Prep students and to determine skill needs and course placement.

   c. Develop a plan for providing academic assistance for students unable to meet the entrance criteria.

4. Participation in a secondary Tech Prep program will provide students with experiences which will enable them to continue their education at a community college and attain an associate of applied science degree. The program should also provide students with the flexibility to continue their education at a four-year university, should they choose.

   a. Initiate discussions between secondary schools, postsecondary institutions, and universities to develop articulation/transfer agreements.

5. Completion of a Tech Prep program will communicate to potential employers that the participant has demonstrated skills and abilities that make them preferred employees.

   a. Begin development of performance standards for each Tech Prep program that clearly define competencies (math and reading levels) and technical competencies that are expected for employment. When statewide industry standards become available, these performance standards must be consistent with them. ISBE, in cooperation with other state agencies, is developing statewide industry standards with employers.

   b. Initiate discussions with potential employers to obtain the commitment that Tech Prep completers will be given priority status for employment, wage incentives, and/or other incentives.

   c. Begin planning with the private sector to provide students with Tech Prep work-based learning opportunities, such as internships and other experiential learning opportunities.

   d. Provide a description of the role of the private sector in Tech Prep programs. Include information or incentives employers will commit for each program. Obtain letters of commitment from employers.

   e. Develop a timeline for regularly scheduled private-sector advisory committee meetings and a written work plan for the committee(s).

6. The concept of Tech Prep will be clearly communicated to students, employers, and the public to ensure participation in and an understanding of the program.

   a. Develop a written marketing plan to communicate Tech Prep initiatives to CEOs, regional administrators, building administrators, counselors, instructional staff, students, parents, employers, and the general public.

The second year of a project should involve change in classroom teaching as a result of the first-year planning effort. In subsequent years, Tech Prep should be expanded to all secondary schools within the community college district, involve several occupational clusters, and become an integral part of the educational program at each participating site. The ISBE will be looking for evidence that state and federal resources have caused institutional change.

Why a Tech Prep Planning Handbook?

This Tech Prep planning handbook is based largely on the practical thinking and day-to-day experiences of planners of the Tech Prep initiatives begun in Illinois during the 1990-1991 school year. During that year, 17 secondary and postsecondary education partners were funded by the ISBE's Department of Adult, Vocational, and Technical Education (DAVTE) to develop Tech Prep initiatives. Individuals involved in these initiatives (i.e., Tech Prep planners) provided the information contained in this handbook.

Tech Prep in Illinois is unique to the needs of secondary and postsecondary schools and employers. The primary purpose of this planning handbook is to provide Tech Prep project directors, coordinators, and other individuals involved in planning activities with ideas for starting up effective Tech Prep initiatives. The design of each local Tech Prep initiative is a grassroots effort. This handbook provides the underpinnings, basic parameters, and ideas for Tech Prep. Planners shared five major objectives for their local initiatives.

- Customizing the Tech Prep concept to develop initiatives that work in local schools and colleges.
- Creating a Tech Prep initiative that is an exciting combination of academic and technical education for career development.
- Creating partnerships that benefit students.
- Forming teams that involve key groups in substantive planning and decision-making strategies.
- Helping all key groups commit to and take ownership for Tech Prep.

This handbook addresses these objectives through a mix of practical and research-based information. It is not intended to be the sole how-to guide for Tech Prep planning in Illinois. It is intended, however, to generate ideas, share successful practices, and encourage communication about approaches to the successful design of Tech Prep initiatives.

What's in This Handbook?

This handbook is divided into six chapters, including this introductory chapter on *Tech Prep in Illinois* and the suggested uses of the handbook.

In Chapter Two, *Applying the Tech Prep Planning Process*, the planning approaches that provided the backbone for this handbook are introduced.

Chapter Three, *Involving Key Groups in Planning Tech Prep*, is a pivotal section of the handbook. It describes strategies for getting educators, business and industry representatives, and others involved in and committed to Tech Prep. Further, this chapter shares information about how to organize these groups into planning teams that can play a critical role in carrying out Tech Prep initiatives.

In Chapter Four, *Developing the Components of Tech Prep*, we explore components that often comprise Tech Prep. The discussion includes the purpose of each component, critical elements and persons involved, suggested timelines, and success stories. Tech Prep planners revealed that there are a wide variety of ways to develop each component, and this chapter describes those alternative approaches.

Chapter Five, *Putting Tech Prep into Action*, introduces strategies for the implementation of Tech Prep. This chapter describes obstacles shared by Tech Prep planners and implementation strategies to help handle them. In addition, the chapter describes contingency planning that can be used to deploy staff and resources to overcome barriers during the implementation phase.

Chapter Six, *Evaluating the Tech Prep Plan*, summarizes important information to evaluate new Tech Prep initiatives. This chapter focuses on ways to evaluate the effectiveness of the processes of Tech Prep planning, development, and implementation. The chapter also shares ideas for applying continuous quality improvement to Tech Prep.

The *Appendices* include "Words of Advice" from project planners, one-page summaries of each 1990-1991 Tech Prep initiative, and suggested resources.

Who Should Read This Handbook?

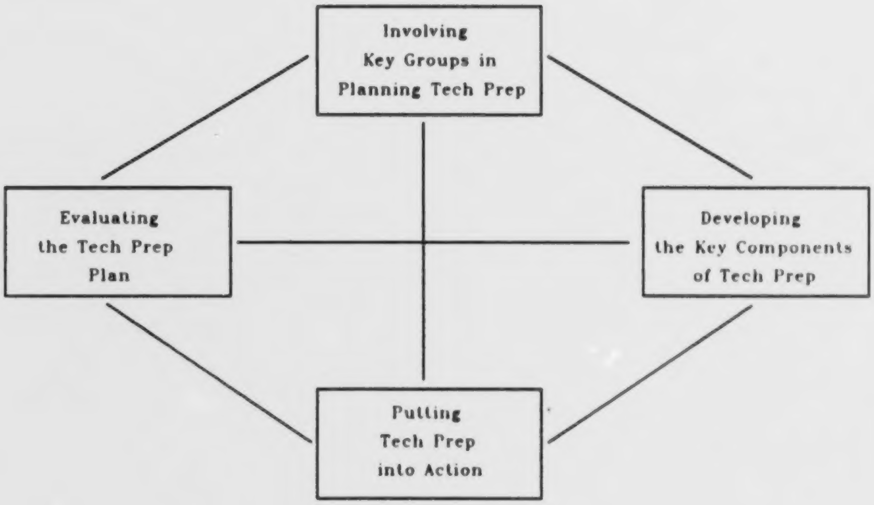
This handbook is written for two groups: Tech Prep project directors and coordinators responsible for leading Tech Prep planning and implementation from start to finish and representatives of key groups that are involved in Tech Prep planning through teams, projects, and special assignments.

For project directors and coordinators, this handbook provides an overview--a roadmap--of Tech Prep planning and points to strategies others have found useful in approaching the overall job of Tech Prep planning. For the second group, the handbook may be most useful if shared when the time is right to approach a particular stage of the Tech Prep planning process. By pulling out sections of the handbook, Tech Prep planners can see ways to approach the components without becoming overwhelmed with the entire planning process.

Applying the Tech Prep Planning Process

Applying the Tech Prep Planning Process

An important Tech Prep planning criterion recommended by educators and employers was the necessity for local diversity and creativity in designing their initiatives. Therefore, the four Tech Prep planning phases suggested in this handbook provide a way to organize the development of local Tech Prep projects. Clearly, it is not realistic for all initiatives to move in a lock-step manner through planning, development, implementation, and evaluation with every component of Tech Prep. Rather, it is important for activities to be conducted at times that make sense for the local initiative. Decisions about where to start and progress through each Tech Prep initiative should be made by local planners based on sound evidence about local needs. The four planning phases are interrelated and ongoing, providing opportunity for continuous improvement of Tech Prep.


Involving Key Groups in Planning Tech Prep
Evaluating the Tech Prep Plan
Developing the Key Components of Tech Prep
Putting Tech Prep into Action

Tech Prep Planning Strategies

There are a number of ways to approach each Tech Prep planning phase. The four phases and selected planning strategies associated with each are shown below.

Tech Prep Planning Phases and Strategies

Phases	Planning Strategies
Involving Key Groups in Planning	• Starting a Tech Prep project • Developing a local philosophy • Selecting planning strategies • Selecting key groups • Developing an organizational structure • Developing planning teams • Devising realistic timelines
Developing the Components of Tech Prep	Designing, developing, and field testing Tech Prep components: • Local policies • Staff development • Articulated curriculum • Curriculum development • Written agreements • Guidance and counseling • Marketing • Business/industry collaboration
Putting Tech Prep into Action	• Understanding the barriers • Designing implementation strategies • Developing contingency plans • Involving key groups
Evaluating the Tech Prep Plan	• Evaluating the planning process • Evaluating Tech Prep outcomes • Ensuring continuous quality improvement of Tech Prep • Involving key groups

Involving Key Groups in Planning Tech Prep

Involving Key Groups in Planning Tech Prep

Nearly everyone agrees that planning is critical to the success of any new initiative. Then, why are new initiatives sometimes not planned as carefully as they should be? Unfortunately, good intentions to plan are not always carried out. Planning takes a lot of up-front time and sometimes people are pressured to move quickly to the implementation stage. Sometimes planning involves groups that are inaccessible or uncooperative, so there is difficulty getting planning activities going. Bringing diverse groups of individuals together can be a difficult task. The real challenge is getting these diverse groups to work together in planning the initiative. Other times planning is constraining, limiting people to options that are unrealistic. Finally, systematic planning often requires knowledge of a future that cannot be predicted easily.

Planning a new initiative that restructures an educational system will be difficult but many people agree that it can pay off in the long run. Time and energy spent in planning will be recuperated through timely and effective program implementation. For this reason, ISBE has made a substantial investment in the planning phase of Tech Prep.

Why plan Tech Prep? Several Tech Prep planners were surprised about the amount of time and intensity of effort required to plan their Tech Prep initiatives. At the same time, these individuals were committed to planning to ensure the success of Tech Prep. A few of the benefits of systematically planning given by Tech Prep planners follow.

- It helps to determine what works and what doesn't work by establishing clearly defined goals.
- It lets people know the future direction of Tech Prep.
- It establishes criteria for making decisions about Tech Prep.
- It sets appropriate limits on the scope of Tech Prep.
- It helps maximize resources and minimize costs.
- It helps set performance standards.
- It encourages teamwork among key groups.

Tech Prep Planning Strategies

The planning approaches described in this handbook are based on the sequence of planning strategies used by Illinois' Tech Prep initiatives.

Tech Prep Planning Strategies	
Plan to plan Tech Prep	• Develop a local philosophy that clearly states reasons for undertaking Tech Prep
Formulate clear short- and long-term goals for Tech Prep	• Relate the goals of Tech Prep to the mission of each participating educational institution and employer
Forecast the future for Tech Prep	• Determine employment opportunities and trends in the community • Prioritize program areas/occupational clusters • Identify future opportunities and obstacles in meeting Tech Prep goals • Make forecasts about where Tech Prep should be in 3, 5, 10 years, and beyond
Prioritize Tech Prep goals, establish measures, and state desired outcomes	• Decide which Tech Prep goals are most critical • Develop concrete statements about the outcomes of each high priority goal and about how the outcomes can be measured • Develop student and program outcomes
Develop and select alternative strategies for Tech Prep goals	• Develop and field test Tech Prep components • Continuously experiment with new and better Tech Prep components • Inservice educators and business, industry, and labor representatives
Implement the Tech Prep plan	• Involve students in courses in which teaching methods and content in some lessons have been revised to include applications and integrated learning
Evaluate the Tech Prep plan	• Evaluate the Tech Prep planning process to make improvements • Determine whether the Tech Prep plan is producing desired outcomes
Revise and improve the Tech Prep planning process	• Review planning strategies on an ongoing basis with key groups and planning teams • Incorporate changes in the planning process to make continuous improvements in Tech Prep

Success Story

Tech Prep project leaders at **Rock Valley College and Career Education Associates of North Central Illinois (CEANCI)** believe that a strong foundation is critical to ensuring the success of their Tech Prep manufacturing technologies initiative. The overall vision for Tech Prep in the Rockford area evolved through careful and intensive planning strategy meetings held by the project leaders with top leaders of the participating college and schools (i.e., Rock Valley College's president and area high school superintendents). It was not until October that project leaders shaped a local philosophy and planning approach that gained acceptance from these top leaders. Later, site-based planning teams played an important role in formulating specific programmatic goals, developing Tech Prep components (e.g., articulation agreements, integrated curriculum, work-based learning experiences), and designing implementation plans. Project leaders emphasized the importance of creating the appropriate image for Tech Prep and involving *champions* in the planning process in order to gain enthusiasm and commitment from the beginning.

Where to Start

Knowing exactly where to start planning a Tech Prep initiative can be difficult. Many Tech Prep planners shared that they had so much to do in the first few months of the project that they were overwhelmed. Activities to be initiated during the first 2-3 months, according to Tech Prep planners, include:

- creating a local Tech Prep philosophy and planning approach
- selecting key groups to participate in the planning phases
- gaining top leader support
- educating project staff about Tech Prep
- creating an organizational planning structure
- developing planning teams
- setting realistic timelines

Developing a Local Philosophy about Tech Prep

It is critical in the early stages of an initiative for planners to analyze their beliefs about Tech Prep. Making beliefs explicit helps provide direction and understanding about why particular approaches are attempted and, later, about why they succeed or fail. To gain consensus on a local philosophy, planners must answer some important questions about Tech Prep.

What is the purpose of the local Tech Prep initiative? How can Tech Prep create a new educational path comparable in worth to college prep? How should it provide an integrated approach to education? To what extent should Tech Prep be viewed as a means of reforming secondary or postsecondary education? To what extent should it reform academic, general, or vocational education? How can Tech Prep be used to improve the sequence of secondary and postsecondary educational experiences?

Who should participate in the Tech Prep initiative? How should Tech Prep be designed as an option for all students that ensures an integrated academic and technical curriculum? How can we meet the needs of all students who want to participate? To what extent can Tech Prep be used to create a more interesting and challenging environment for an entire school or college?

How will we know when Tech Prep is working? What kinds of outcomes are expected of students with different ability levels, career aspirations, and personal needs? What levels of performance should be expected of students completing Tech Prep? What are the potential benefits of Tech Prep for the schools and colleges participating in the initiative? How can evaluative information be used to enhance decision making and program improvement?

How should the Tech Prep planning process be conducted? To what extent will the Tech Prep planning process involve key stakeholder groups? How will the process foster teamwork? Should program quality be based on definitions provided by key client groups? What is gained by involving key groups early in planning? How will key groups be involved in decision making?

Verbalizing beliefs and writing them into a local philosophy about Tech Prep is an important first step in the planning process. Listed below are selected statements provided by project leaders about some facet of their project's local philosophy.

Local Philosophies

Tech Prep provides a way to meet Danville's need for *prepared* workers and to revitalize the curriculum. It (Tech Prep) is essential to the development of Workforce 2000. **Danville Area Community College/Vermilion County EFE System**

Tech Prep takes place in the classroom--in all classes. It must integrate academics with vocational subjects and provide for practical applications. **Rock Valley College/CEANCI**

Tech Prep means "preparing the future work force through integration of education, business, and the community". **Illinois Eastern Community Colleges/Twin Rivers Regional Vocational System/Edwards-Wabash-Wayne-White Vocational Systems/Clay-Jasper-Richland Regional Vocational System**

Integration of academic and vocational subjects is the key ingredient of a successful Tech Prep initiative. Tech Prep represents a means of developing a new thrust for education and business collaboration. **Joliet Junior College/Three Rivers EFE System (TREES)**

A key concept of Tech Prep is creating a meaningful sequence of courses, with multiple entry and exit points, that includes all college prep requirements and adds technical components, thereby leaving the baccalaureate option open. **Northwest Suburban Career Cooperative/William Rainey Harper College**

Tech Prep is a sequenced pathway of articulated academic and vocational-technical courses to prepare students for competitive technology employment in a global society. **Lake County Area Vocational System/College of Lake County**

Who to Involve

Knowing who to involve in planning a Tech Prep initiative may not be apparent in the early stages of the initiative. Tech Prep planners advised that it is important to select those individuals, groups, and organizations that are directly impacted by Tech Prep and likely to be interested in ensuring its success. Selecting key groups that have a stake in Tech Prep's future means identifying:

- educational institutions to be partners in secondary/postsecondary articulation (e.g., secondary schools, community colleges, and four-year institutions)
- employers to be partners with education in designing work-based learning and providing viable work experiences and job placements
- academic and technical program areas that can be integrated into meaningful and practical curriculum
- individuals who can be *champions* for Tech Prep and lead local planning activities, including community leaders, board members, and parents
- educators (e.g., administrators, faculty, counselors, EFE system directors, and university faculty) who offer enthusiasm and energy to developing Tech Prep
- students and parents who can benefit from Tech Prep

Why Involve Key Groups in Planning? Inviting key groups that have a stake in the development and implementation of Tech Prep has several benefits, according to planners. Increased involvement of groups results in shared ownership of Tech Prep, thereby improving the effectiveness of the initiatives for a broad spectrum of stakeholders. There is also evidence that increased involvement better prepares people for change--an inevitable consequence of Tech Prep. Tech Prep planners shared a number of important reasons for involving diverse stakeholder groups in Tech Prep.

Reasons for Involving Key Groups in Planning Tech Prep

- Creates better understanding of Tech Prep
- Facilitates consensus building
- Results in better decisions about Tech Prep
- Provides more information about client needs and wants
- Decreases turf battles
- Shares ownership
- Facilitates communication
- Mobilizes resources
- Exercises initiative
- Enhances creativity

Success Stories

The Tech Prep initiative at **City Colleges of Chicago and Chicago Public Schools** involves establishing partnering relationships among representatives of the college, secondary schools, the Economic Development Commission, business, industry, and labor, and community-based organizations. These groups were involved very early in the project to facilitate development and the communication process. Project leaders from Chicago shared that key groups helped to establish and share a vision for Tech Prep. Ownership for Tech Prep was developed through participation of key group representatives on implementation teams which met bimonthly. To maximize their productivity, these meetings were structured with a definite purpose, agenda, minutes, ground rules, and expected outcomes. Project leaders also emphasized the importance of establishing clear communication vehicles. They indicated that business and industry representatives, in particular, were unfamiliar with educational jargon. Educators had similar concerns with business and industry terminology. They advised to be sure to allow enough time to work out communication processes, establish sound relationships, and develop group processes that facilitate strong partnerships.

The Tech Prep initiative at **Lewis and Clark Community College and the Illinois Valley Regional Vocational System** involved three secondary schools. Project leaders explained that they selected sites that were sure to have strong district-wide administrative support. In addition, they selected schools where a strong leader could be identified to initiate and facilitate planning tasks for his or her particular institution. A counselor, teacher, or administrator took the lead for Tech Prep in each of the participating high schools. In turn, these leaders recruited other planning team members by assuring them of the importance of Tech Prep and their school administrator's support for the project. According to project leaders, it was through careful recruitment of school administrators and planning team members that the groundwork was laid for Tech Prep.

What Are the Roles and Responsibilities of the Key Groups? What expertise do each of the key groups bring to Tech Prep planning? Many ideas were shared about the roles and responsibilities of key groups in planning Tech Prep.

Roles and Responsibilities of Key Groups

Key Groups	Examples of Roles and Responsibilities
Faculty	Academic: • Identify academic applications for integrated academic/technical curriculum • Design and develop integrated curriculum jointly with vocational-technical faculty and others • Plan and participate in team teaching of integrated curriculum • Assist in designing staff development, particularly to meet the needs of academic faculty • Assist in designing articulation agreements • Educate others about Tech Prep Technical: • Identify technical applications for integrated academic and technical curriculum • Design and develop integrated curriculum jointly with academic faculty and others • Plan and participate in team teaching of integrated curriculum • Assist in designing staff development, particularly to meet the needs of technical faculty • Assist in designing articulation agreements • Educate others about Tech Prep
Administrators	College Presidents: • Develop a vision of Tech Prep for the college in conjunction with secondary system director(s) and superintendents • Communicate and sell the Tech Prep vision • Develop a Tech Prep philosophy and college policies

Roles and Responsibilities of Key Groups (cont.)	
Key Groups	Examples of Roles and Responsibilities
Administrators (cont.)	College Deans: • Identify college planning team members • Assist in leading the Tech Prep project • Coordinate planning Tech Prep with key groups • Assist in Tech Prep project management Superintendents: • Develop a vision of Tech Prep for the school district in conjunction with community college presidents and EFE system directors • Communicate and sell the Tech Prep vision • Develop a Tech Prep philosophy and district policies School Principals: • Identify school planning team members • Provide building-level support • Assist in developing a Tech Prep philosophy and school policies EFE System Directors: • Assist in development of the Tech Prep vision and philosophy • Facilitate communication about Tech Prep across participating EFE systems and institutions • Gain local support and resources for Tech Prep • Assist in curriculum integration activities • Assist in staff development efforts • Identify planning team members • Assist in Tech Prep project management • Develop and coordinate marketing efforts
Business/ Industry/Labor Representatives	• Identify and commit to providing work-based learning experiences • Assist in identifying performance standards (academic and technical) • Assist in developing and providing incentives for students (e.g., work experience, guaranteed job placement) • Assist in providing internships for faculty • Share resources (e.g., expertise, time, meeting facilities) • Update faculty on current technologies and assist with team teaching • Review marketing plans and tools • Educate and gain support from other employers about Tech Prep
Counselors	• Inform students, parents, and others about Tech Prep • Counsel students about participating in Tech Prep • Assist in designing the Tech Prep components • Assist students with career planning • Help students arrange work experiences • Assist students in planning Tech Prep programs of study • Promote Tech Prep and its options to students

Roles and Responsibilities of Key Groups (cont.)

Key Groups	Examples of Roles and Responsibilities
University Faculty	• Assist in developing articulation agreements between community colleges and 4-year colleges and universities • Assist local sites in all phases of Tech Prep planning, implementation, and evaluation • Provide staff development for planners • Disseminate Tech Prep information to future teachers
State Agency Staff	• Develop a vision of Tech Prep for the state • Establish statewide policy and standards • Assist in project development and management • Conduct evaluations of Tech Prep • Facilitate program improvement activities • Provide staff development for planners • Facilitate state policy changes
Students and Parents	• Communicate student needs, competencies, and career and educational aspirations • Review and react to plans for Tech Prep components • Provide evaluative information as the initiative moves from the planning to the implementation stage

Success Story

The Tech Prep initiative of the **Danville Area Community College and Vermilion County EFE System** is an outcome of a cooperative effort between education and business and industry to find a solution to a serious worker shortfall in Danville and the Vermilion County area by the year 2000. Tech Prep is part of a larger initiative in Danville, known as Workforce Challenge 2000. Planning for Tech Prep and Workforce Challenge 2000 involved a large number of key groups, including education; business, industry, and labor; local government; and community leaders. A 26-member committee provided leadership for the initiative, developed goals, and coordinated the planning tasks of nearly 30 task forces, focus groups, goal committees, and stakeholder groups. Through this broad-based community approach to planning, Danville strives to get as many people involved in Tech Prep as possible.

How to Get Key Groups Committed to Tech Prep. Simply forming advisory committees for Tech Prep is not enough to ensure success. The challenge is in getting full cooperation over the long term to make a meaningful contribution to the development of Tech Prep. Illinois planners gained key group commitment through numerous strategies.

Strategies for Gaining Key Group Commitment

- Involve key groups early in planning Tech Prep
- Encourage top leaders of partnering institutions to talk about Tech Prep
- Link planning to a local philosophy about Tech Prep
- Explain potential outcomes and shared benefits of Tech Prep
- Conduct informational meetings to orient key groups
- Encourage but do not mandate that people participate
- Be flexible and adjust to changing needs
- Respect people's needs to get regular work done when planning Tech Prep
- Make it comfortable for people to participate
- Give people time to become actively involved
- Encourage and reward people for their hard work
- Create a special environment for planning Tech Prep
- Be open and honest in dealing with problems
- Let people know you value their input

Success Story

The Tech Prep initiative planned by the **Lake County Area Vocational System and College of Lake County** involves key groups in four committees. The leadership committee consists of CEOs of participating institutions and business/industry representatives. The curriculum committee includes employers, academic and technical faculty, and curriculum specialists. The members of an information/promotion committee represent guidance counselors, public information specialists, and community leaders. Finally, members of the evaluation committee are currently being selected. Lake County partners used many strategies to gain commitment from these diverse stakeholder groups. These strategies included providing staff development for faculty, materials and equipment for applied instruction, common time for joint planning, opportunities to share success, and involvement from top institutional leaders.

Organizational Structures for Planning

Planning Tech Prep involves using the knowledge and skills of stakeholders in small groups to accomplish specific tasks. These groups generally have 5 to 12 members, with the optimal size being 7 to 9. Group planning, regardless of the specific objective of the group, generally involves:

- working toward consensus
- developing goals
- developing components
- developing action plans
- developing contingency plans
- creating implementation strategies
- evaluating the planning process

There are several ways for groups to function during the planning phase of Tech Prep. One approach involves existing committees (i.e., faculty curriculum committees or advisory committees) in the planning process. While this approach has an advantage of providing quick start-up, it may result in a passive planning process. There may be value in setting up new groups that bring a fresh perspective to Tech Prep and are ready to approach planning from an active partnering perspective. When this second approach is used, it is advantageous to identify and involve the groups as *planning teams* for the duration of the project.

Planning teams are groups of experts whose talents are contributed to accomplish the shared goal of planning Tech Prep. Members of a Tech Prep planning team think of themselves as belonging to a group that is unified by the common goal of designing an exciting Tech Prep initiative that is critical to the organization's mission and their own personal career goals.

Planning team members interact through regularly scheduled meetings and depend upon one another to meet the team's objectives. To be effective, planning team members are trained in the use of specialized group processes and problem-solving tools so they work effectively and creatively. At all times, positive communication is facilitated, resulting in an atmosphere of cooperation, trust, and open sharing. An effective planning team recognizes the unique talents and contributions of its members and comes to rely on its members to form a complete effort.

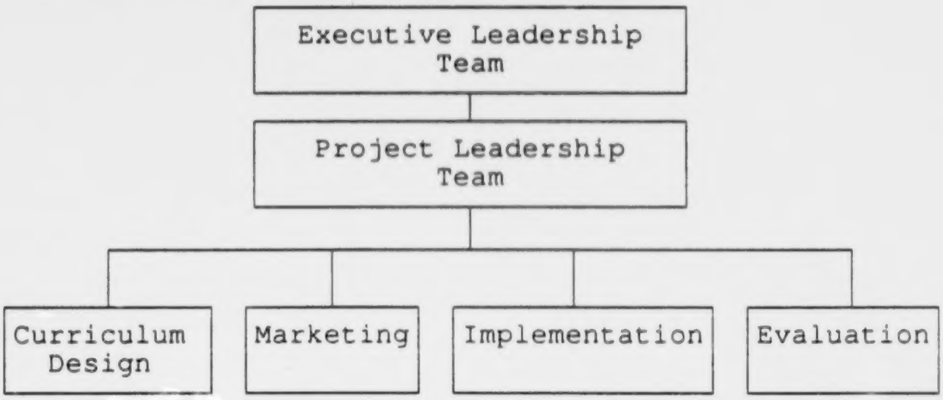
According to Tech Prep planners, using teams is an effective way to develop Tech Prep initiatives. The purposes of various types of planning teams depends upon the purpose, philosophy, and components of the local Tech Prep initiative. Areas in which local projects have organized for Tech Prep planning include:

- leadership
- project management
- curriculum development/design
- marketing
- implementation
- evaluation
- work experience

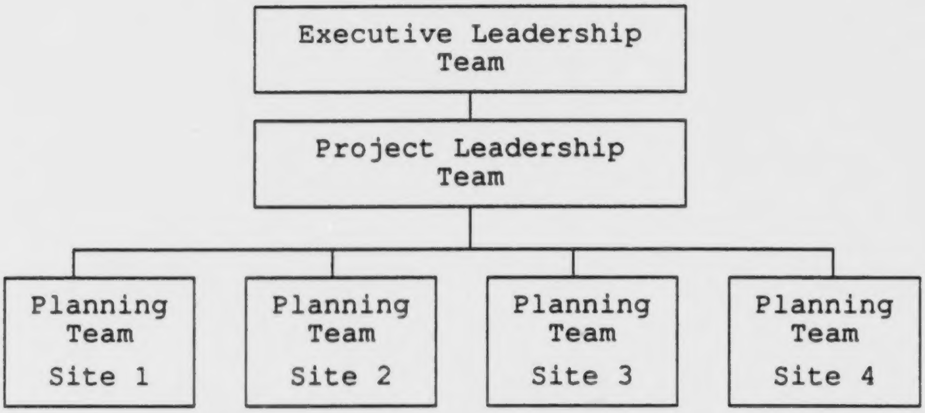
During the initial year of Tech Prep planning, three strategies for organizing planning teams evolved. These organizational planning approaches are:

- functional planning approach
- site-based planning approach
- mixed planning approach

Functional Planning Approach. When applying the functional planning approach to Tech Prep, planning teams are organized around areas such as curriculum development, marketing, implementation, or evaluation. Representatives from participating sites and stakeholder groups make up each planning team. This approach captures the specialized expertise of planners, which is an important advantage when designing complex components, such as an integrated curriculum. However, this approach may not address local site characteristics as well as the site-based or mixed planning approaches. An organizational chart for a Tech Prep initiative using the functional planning approach is shown below. One site using this type of approach is **Parkland College and the Champaign/Ford Vocational System**.

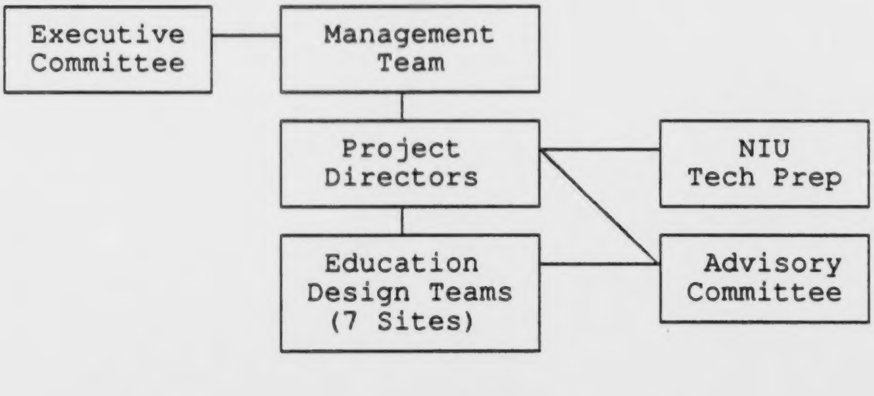


Site-based Planning Approach. This approach utilizes planning teams made up of members from various disciplines within each participating site. This approach enables individuals within a site to become involved in Tech Prep by planning components that will be implemented within their own institutions. This approach also maximizes the concept of developing commitment and ownership among local planners. A potential weakness is that team members may not have the expertise required to plan and develop some aspects of a Tech Prep initiative, such as evaluation. Additional time may be required to develop the skills and knowledge among site-based planners to design these Tech Prep components or to locate outside experts and involve them in planning. Presented on the following page is an organizational chart portraying the site-based planning approach. The Tech Prep initiative at **Illinois Eastern Community Colleges, the Twin Rivers Regional Vocational System, the Edwards/Wabash/Wayne/White Vocational Systems, and the Clay/Jasper/Richland Regional Vocational System** uses this approach.


Executive Leadership Team
Project Leadership Team
Planning Team Site 1
Planning Team Site 2
Planning Team Site 3
Planning Team Site 4

Mixed Planning Approach. This approach combines aspects of the functional and site-based planning approaches to take advantage of the strengths of each. The mixed planning approach typically uses site-based planning teams to design Tech Prep components that require local involvement, such as curriculum integration and implementation. In addition, the mixed planning approach involves some functional planning teams with cross-site representation to develop components (e.g., staff development and evaluation) that involve all of the participating institutions. Through the mixed planning approach, an organizational planning structure is created that maximizes local involvement and also takes advantage of the efficiencies gained in involving experts across sites in designing components and processes that impact the entire Tech Prep initiative.

Presented below is the mixed planning approach used by the Tech Prep initiative of **Rock Valley College and CEANCI**. This Tech Prep initiative established site-based education design teams to create Tech Prep components for the participating sites. In addition, Rock Valley College created a functional team which included Northern Illinois University (NIU) faculty to assist primarily with staff development. A second functional team, an advisory committee, was formed of business and industry representatives to develop summer internships, market Tech Prep, and assist the education design teams.


Executive Committee
Management Team
Project Directors
NIU Tech Prep
Education Design Teams (7 Sites)
Advisory Committee

Planning Team Responsibilities

Most Tech Prep sites organized three levels of planning teams: executive leadership teams, project leadership teams, and functional and/or site-based planning teams. Through these teams, Tech Prep initiatives evolved throughout the planning year. Each of these levels of teams has specific roles and responsibilities that must be carried out to make the Tech Prep planning process successful.

Responsibilities of Executive Leadership Teams. Involving top leaders is critical to the success of Tech Prep. There are three fundamental questions that are important to ask top leaders to ensure their commitment to the initiative.

- Do you understand the level of time and energy required to develop Tech Prep?
- Are you prepared to make a commitment to ensuring that Tech Prep is successful?
- Will resources be committed to implement the program fully (as planned)?

Affirmative responses to these questions are necessary to ensure top leader support for Tech Prep.

Roles and Responsibilities of Executive Leadership Teams

- Commit personal time and energy
- Communicate the importance of Tech Prep
- Commit to systematic planning and implementation of Tech Prep
- Develop vision, local philosophies, and policies
- Assume ultimate responsibility
- Instill enthusiasm
- Coach and support staff
- Allocate resources
- Intervene and resolve issues
- Review and evaluate the initiative
- Provide appropriate rewards and sanctions

Success Story

Prior to responding to the ISBE RFP (request-for-proposals), **Joliet Junior College and TREES** contacted high school superintendents to obtain up-front commitment to Tech Prep. Several institutional leaders served on the grant writing team, including a high school superintendent, a principal, vocational directors, and the College's career dean. Subsequently, the Three Rivers Corridor Partnership for Excellence in Education committee adopted the Tech Prep initiative as one of its business and industry thrusts. A strength of Joliet's Tech Prep initiative is the excellent cooperation between secondary school and college leaders.

Responsibilities of Management/Project Leadership Teams. The job of managing a local Tech Prep initiative can be very complex. Sometimes this job is shared by members of a project leadership team, other times one person has total responsibility for managing an initiative. Tech Prep planners shared that skills and knowledge related to project management are critical to successful leadership of Tech Prep. They also explained that expertise in the field of education is important to doing a thorough job as a member of the project leadership team, especially as project director or coordinator.

Tech Prep planners described the importance of project leaders having expertise in the following education-related areas:

- curriculum development
- program planning
- marketing and student recruitment
- program evaluation
- specific school and college systems
- Illinois' EFE regional system
- vocational and technical education
- secondary/postsecondary education articulation
- academic and technical education integration

Besides these areas, project leaders must possess skills and knowledge in leading and managing an educational innovation project. The three pivotal project leader roles identified by planners and the multiple responsibilities associated with each are illustrated on the next page.

Roles and Responsibilities of Project Leaders	
Roles	Examples of Responsibilities
Change Leader	● Initiate start-up of Tech Prep ● Recruit key groups for Tech Prep ● Instill enthusiasm and commitment to Tech Prep ● Stimulate the planning process ● Create and recommend alternative approaches ● Make decisions about plans and future directions
Facilitator	● Search for and interpret information ● Educate others about Tech Prep planning and implementation ● Organize and guide planning teams ● Help groups develop positively ● Establish a climate of trust ● Resolve conflicts ● Link people with information and resources ● Keep teams moving ● Communicate (written and verbal) and listen carefully ● Give formal and informal presentations ● Disseminate information about the project ● Conduct follow-up visits with participating sites
Manager	● Organize and coordinate planning meetings ● Coordinate data collection and analysis ● Organize and carry out regular project activities ● Select, orient, and supervise project staff ● Acquire resources and manage budgets ● Maintain project records ● Conduct grant writing ● Juggle multiple management responsibilities

Responsibilities of Planning Teams. The roles and responsibilities of planning team members can be as diverse as the philosophies of local Tech Prep initiatives.

Roles and Responsibilities of Planning Teams

- Identify other organizations and people to be involved
- Represent the needs and wants of each key stakeholder group
- Possess vision for the future of education and be able to share it
- Develop commitment to the program
- Contribute ideas and resources
- Devise planning strategies
- Develop the Tech Prep components
- Develop implementation plans
- Assist in refining the Tech Prep planning process

Success Stories

The **Quad Cities, Tri-County Vocational Region, and Black Hawk College** created a planning core team with representatives from participating institutions. At each of the sites, design teams were organized with academic and technical faculty from secondary and postsecondary schools and representatives of local business and industry. The planning teams were responsible for developing curriculum based on a locally conducted DACUM (Developing a Curriculum). The planning site teams were also actively involved in developing curriculum that integrates academic and technical content, critical thinking, team building, decision making, and problem solving.

John A. Logan College, the Williamson County EFE Delivery System, and the Jackson-Perry Counties EFE Delivery System organized four planning teams to assist in integrating applied curriculum materials and methods. The teams were divided into the math, science, communications, and technical areas. Team members were administrators, faculty, and guidance counselors from the college and secondary schools. A growing relationship is developing between academic and vocational faculty because of increased understanding and admiration shown for what each is accomplishing.

Strategies to Develop Tech Prep Planning Teams

Much can be done to continually build a healthy working environment for planning teams. Ten strategies that provide ideas for developing mature, effective Tech Prep planning teams are suggested.

1. **Gain commitment from top leaders to a team planning approach.** If a team attempts to operate without top leader support, it will have difficulty achieving success. Implementing planning teams within an institution has the added benefit of educating individuals at all levels of that institution about Tech Prep.

2. **Assume individual responsibility for one's own contributions to the team.** No team can be effective unless its members take action to acquire the knowledge and skills necessary to be effective team members. Once the know-how is in place, individuals must make substantive contributions to planning Tech Prep by using appropriate interpersonal communication and technical skills.

3. **Reach consensus on the team's primary goals and ensure they remain foremost in importance.** It is important that teams quickly recognize the struggle between individual and team accomplishment. A team can be effective only when it clearly specifies its purpose in planning Tech Prep and ensures that all aspects of its functioning reinforce that purpose.

4. **Formalize the team processes to be used.** Within a team's operations, planning can be much more efficient and conflict among members minimized if group processes are formalized. Early establishment of ground rules for teams helps to reduce questions and conflict about standard operating procedures and makes the new initiative a little less scary.

5. **Seek training.** Staff development is essential to provide team members with the knowledge and skills necessary to function effectively. For the team to be productive, all team members need to know the basics in such areas as how teams work and develop, how to use group processes and tools, and how to resolve conflicts.

6. **Practice.** It takes practice to work effectively as a team. Tech Prep planning teams can benefit from undertaking practice exercises that enhance interpersonal relationships among members, improve the team's planning strategies, and strengthen its problem-solving processes. It may take a long time for a team to work efficiently. Many teams never do. However, it is through experience that teams gain the expertise and momentum necessary to make important contributions to planning Tech Prep.

7. **Observe Tech Prep planning teams in action.** Observation is a useful way to improve planning teams. This can occur in at least two ways. First, the team can select a member or an outside party to

provide suggestions for improvement. Second, the team or individual team members can observe the way other Tech Prep planning teams work.

8. **Evaluate the team's performance.** A formal assessment of team work and the way individuals contribute to the team can be very useful. Typically this evaluation is conducted by an outside party who has expertise in team work. The evaluator uses formalized evaluation tools and procedures and conducts an evaluation by observing the team functioning over a period of time. Further, it is important that the evaluator examine outputs of the team's work in relation to its own goals, the goals of Tech Prep, and the missions of the participating institutions.

9. **Seek interventions when the team cannot work through problems.** When conflicts are persistent, major changes in the team may be needed. Team interventions may involve changes in leadership, adoption of new group processes and tools, additional training and education, removing individuals from the team, or disbanding the team. These changes can occur through decisions made by the teams themselves or through decisions of other project leaders or planners.

10. **Celebrate team accomplishments.** Team work is not easy, especially for a group of individuals new to the activity. When a group reaches its goals, it is important to reward members for their contributions. Enough cannot be said about providing opportunities for team members to celebrate their shared successes.

Success Story

Team building played an important role in Tech Prep at **Illinois Valley Community College and Starved Rock Associates for Vocational & Technical Education (SRAVTE)**. Each participating site formed a team consisting of math, science, social science, language arts, and industrial technology teachers as well as counselors. To bring individuals with such diverse areas of expertise together, staff development activities included topics such as team building, change agents and activators, and communications. These staff development activities helped build solid planning teams to carry out the important goals of developing a sequenced curriculum and identifying institutional strategies for the Tech Prep initiative.

Realistic Time Expectations

Establishing definite and reasonable timelines for planning and implementing Tech Prep can be difficult, especially at the onset when so many questions remain unanswered. Throughout the remainder of this handbook, information is shared about when to begin development of each component and when to implement and evaluate the initiative. Whereas there are bound to be differences in how each local initiative approaches the timing of Tech Prep, Illinois' planners have provided some guidelines for beginning particular aspects of the planning and implementation processes. Factors that seem to influence the timing involved in planning and implementing Tech Prep are:

- number of participating secondary and postsecondary institutions
- number of academic and technical program areas
- number of planning teams and planners
- experience of planners with new initiatives
- knowledge, skills, and experience of project leaders and planners
- ease with which planning and implementation processes evolve
- degree to which new components, including integrated curriculum, need to be developed
- availability of resources, personnel, and information

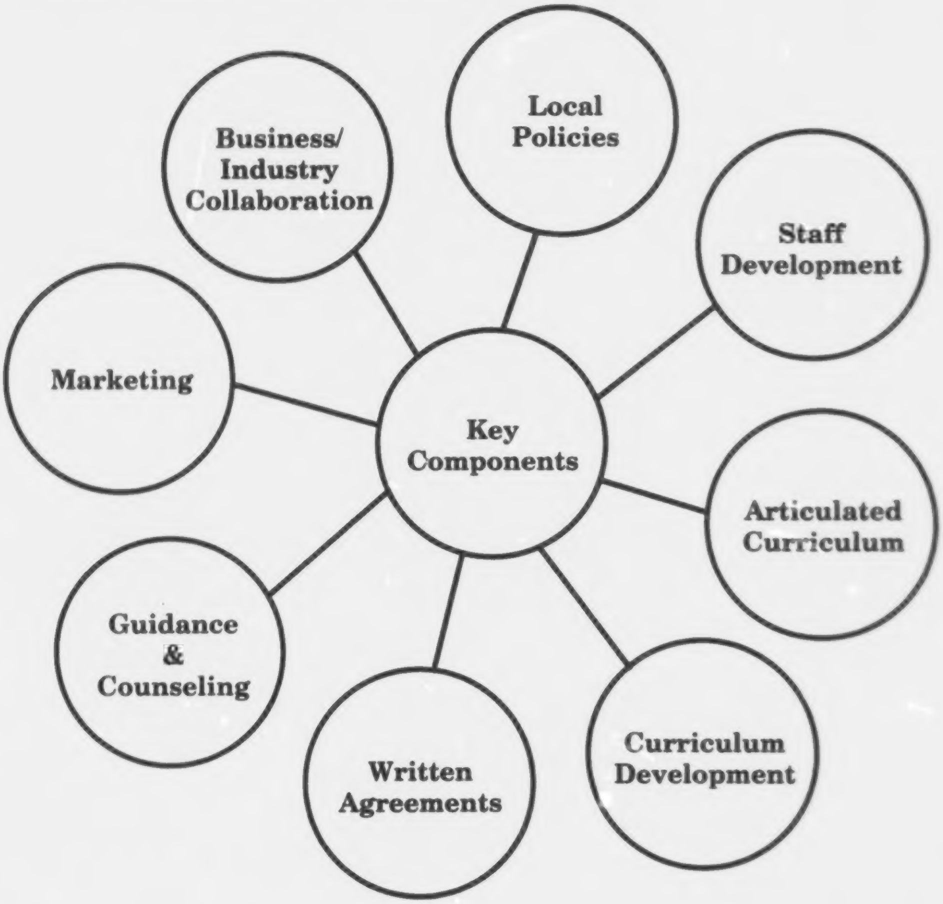
Clearly, the larger the effort, the more time and energy involved in getting started with Tech Prep. This is one reason that starting relatively small with a new Tech Prep initiative may be beneficial.

Finally, a great deal must happen at the start of a Tech Prep initiative. However, it is important for each local initiative to take a close look at activities that must be accomplished early in the project based on its local philosophy and planning strategies. Hurrying through the initial planning stage is ill-advised. It can result in an unclear vision for Tech Prep, poor planning team efforts, and inferior educational experiences for students in the end. Struggling with the initial stages of planning sets a framework for a sound Tech Prep initiative over the long term. Each site must determine how and when to move through the planning process to develop a Tech Prep initiative that meets local needs.

Developing the Components of Tech Prep

Developing the Components of Tech Prep

A local philosophy about Tech Prep serves as the foundation for designing the major components. As Tech Prep evolves through the sharing of ideas and strategies by key participants, major components are developed. Major components identified by Tech Prep planners are shown below. The purpose of each component is summarized on the following page.


Local Policies
Business/ Industry Collaboration
Staff Development
Marketing
Key Components
Articulated Curriculum
Guidance & Counseling
Written Agreements
Curriculum Development

Tech Prep Components	
Component	Purpose
Local Policies	Set policies about issues important to each local participating institution
Staff Development	Assist professional staff in understanding, accepting, and implementing Tech Prep and in understanding current workplace practices
Articulated Curriculum	Coordinate a planned sequence of coursework that prepares students with academic and technical skills for the workplace
Curriculum Development	Involve academic and technical faculty in jointly designing curriculum that is application-based and academically and technically integrated
Written Agreements	Solidify roles and responsibilities of participating institutions and specified programs
Guidance and Counseling	Identify key roles and functions of counselors in Tech Prep
Marketing	Develop effective techniques for communicating Tech Prep internally and externally
Business/Industry Collaboration	Identify various ways of involving business, industry, and labor in meaningful partnerships with education

Local Policies

What's the Purpose?

In developing local philosophies for Tech Prep, several policy issues must be considered. It is important to establish guidelines that are consistent with and reflective of each participating school's philosophy, environment, and administrative practices as well as the state's Tech Prep guidelines. Issues to consider when developing local policies are discussed in this section.

Local Policy Issues

- Equal opportunity
- Student recruitment
- Teacher certification
- School/college calendars
- Student selection
- Secondary/postsecondary articulation
- Job placement
- Assessment
- Work experiences
- Student certification

What to Consider

A closer look at each of these issues is critical for Tech Prep planners in determining local policies and guidelines acceptable to each participating institution, agency, and system.

Equal Opportunity. All high school and community college students must be given equal opportunity for participation in Tech Prep. Whereas criteria may be established for student selection, assistance should be provided to students who do not initially meet the criteria to enable them to participate in Tech Prep when they achieve the skills to do so. Criteria must be clearly communicated to each participating institution.

Student Recruitment. The focus of student recruitment should be on students within the schools and regional systems in the community college district. To clarify student recruitment procedures, local policies about marketing Tech Prep should be established and published.

Teacher Certification. One specific issue to be addressed is vocational instructors teaching academic courses and academic instructors teaching vocational-technical classes. In an Illinois State Board of Education memo dated May 13, 1991, Richard Haney and Richard Miguel stated that qualified instructors of Physics and/or Industrial Technology may teach Principles of Technology. Secondly, Biological Science Applications in Agriculture may be taught by a qualified agriculture education and/or a biology teacher. They further suggested a team teaching approach is most desirable.

School Calendars. Generally, secondary school and postsecondary institution calendars do not coincide. The secondary school year may begin before or extend beyond that of the community college semester. If high school students are also enrolled in community college courses, decisions need to be made about how best to handle these situations.

Student Selection Criteria. At the secondary and postsecondary levels, specific requirements used to select students for Tech Prep must be established up-front and accepted by participating schools. Additionally, a plan for making academic assistance available to students not meeting established criteria must be developed.

Secondary/Postsecondary Articulation. Developing a planned sequence of academic and technical coursework between high schools, community colleges, and four-year institutions is a priority for Tech Prep initiatives. Coursework must be planned so that courses are not duplicated, delays are not created, or loss of credit occurs when students transfer from secondary to postsecondary schools. Ultimately, the goal is to link two or more educational systems, while ensuring a smooth transition for students.

Job Placement Services. Community colleges are required to make job placement services available to *all* community college students. Students participating in Tech Prep should have access to these services as well. However, Tech Prep planners may want to enhance existing job placement services for these students. Also, local policies may need to define the use of community college job placement services by high school students involved in Tech Prep.

Assessment. As a result of the 1990 federal vocational and applied technology education legislation, performance standards for students must be developed. Tech Prep initiatives will be expected to meet these performance standards. Whereas assessment methods for performance standards are not yet complete, other grading and testing procedures are local policy considerations that should be determined by institutions participating in Tech Prep.

Work Experiences. In establishing the work experience component for Tech Prep, planners should be aware of the "12-hour rule," which states that community college students must have completed 12 credit hours in an occupational area prior to or concurrently with enrolling in internships. If a summer work experience is offered to students between high school graduation and the first semester of college, it may not be called an internship. One alternative suggestion is to call this first work experience a "career exploration" experience. Local policies should define this experience and the kinds of activities to be included in it. It will also be necessary to review labor laws when dealing with students under age eighteen.

Student Certification. Tech Prep planners should consider issuing some form of a certificate to students who meet performance standards when completing Tech Prep at both secondary and postsecondary levels. These certificates would identify the academic and occupational skill levels of Tech Prep completers and be tangible evidence of completion of Tech Prep. They give students a sense of accomplishment as well as assist employers who may give priority hiring to graduates of Tech Prep.

Who to Involve

Individuals responsible for determining local policies for Tech Prep are:

- community college presidents
- community college career deans
- high school superintendents
- high school principals
- EFE system directors

Other individuals from secondary and postsecondary levels who may be involved in setting local policies are:

- academic faculty
- technical faculty
- department chairs
- guidance counselors

When to Begin

Tech Prep planners should begin to think about local policy issues when developing their Tech Prep philosophy. Ideally, the planning process will take these issues into consideration and establish local policies from the beginning. Planners may find, however, that final decisions on certain policy issues may not occur until Tech Prep is approaching implementation.

Staff Development

What's the Purpose?

One key to the success of any new educational initiative, such as Tech Prep, is staff development. Effective staff development assists professional staff to move from *what is* to *what should be*. The educational change process involves learning new ways of thinking and doing. The success of Tech Prep depends on professional staff fully understanding it, believing in its purpose and goals, and implementing it in the classroom. To foster this success, a quality staff development effort must be initiated.

Quality Staff Development Elements

- **Building common knowledge and concepts**. Initially, all those involved in Tech Prep must understand the Tech Prep initiative, its basic premise, and the need for the initiative.
- **Sharing a vision**. All staff involved in Tech Prep must share a common definition of Tech Prep and common goals for the program and its future.
- **Changing values and beliefs**. Values and beliefs can be changed only when needs are met and change is shown to be useful.
- **Translating new values and beliefs into specific behaviors**. All staff involved in Tech Prep must see behavioral changes and have an opportunity to practice such desired behaviors.

A fundamental premise in developing staff is *internalization*. Unless staff members fully understand and accept Tech Prep as something that strengthens the quality of education, there is little reason to adopt such a new program. It is important for all staff to develop an ownership of Tech Prep, if it is to be successfully implemented. After all, change must come from *within* the high school and college.

What to Consider

An effective staff development program encompasses a seven step process, beginning with creating awareness about a program and ending with assessing its effectiveness.

Staff Development Process

Steps	Objectives
Awareness	Establish an understanding and encourage staff involvement
Readiness	Elicit acceptance and recognition of the need for change
Planning	Design a staff development plan and acquire the necessary resources
Collaboration	Solicit cooperation and participation from key individuals
Implementation	Launch the staff development program
Management	Minimize problems and ensure maximum participation
Evaluation	Assess the staff development process and its effectiveness

Topics to include in staff development and techniques for delivery vary from site to site, depending on the emphasis of the Tech Prep initiative, needs of participating staff, and available resources.

Staff Development Topics

- Introduction to the Tech Prep philosophy
- Cooperative learning
- Team building
- Teachers as change agents
- Developing performance standards
- Integration of academic and technical education
- Soliciting business and industry involvement
- Designing Tech Prep curriculum
- Developing articulation guidelines/agreements
- Technology terminology and concepts
- Marketing Tech Prep
- Involving parents and the community in Tech Prep
- The guidance counselor's role in Tech Prep
- Student recruitment and assessment
- Designing work experiences for Tech Prep students
- Barriers to implementation

Staff Development Delivery

- Audiovisual materials
- Group discussions
- Business and industry tours
- Shadowing experiences
- Internships
- Team activities
- Panel presentations
- Visits to the participating schools and colleges
- Lectures

Who to Involve

Presenters. Selecting the right individuals to conduct staff development is critical. The presenters selected must be sensitive to the local environment and flexible in tailoring their ideas and materials so that local initiatives can easily apply them. Some considerations in selecting presenters are:

- nature and scope of the topic
- desired outcomes
- role of the presenter
- previous experience
- expertise of the presenter
- finances
- timeframe
- location
- in-house expertise
- availability of external consultants

It is important to remember that there is generally an abundance of in-house expertise available to conduct staff development. However, it is equally important to recognize that in certain situations staff may more readily accept change from someone outside the institution. In those cases, a well-respected, well-known consultant may be more beneficial. Another alternative to consider is sending a small team of professional staff to a training workshop or seminar and having them train others involved in the Tech Prep initiative.

Participants. All individuals involved in Tech Prep should be encouraged to participate in staff development. Staff development includes but is not limited to the following individuals:

- secondary administrators (e.g., superintendents, principals, and vocational directors)

- postsecondary administrators (e.g., college presidents, vice presidents, career deans, and instructional deans)

- secondary and postsecondary academic and technical faculty
- secondary and postsecondary counselors
- EFE system directors
- business, industry, and labor representatives

When to Begin

Ideally, staff development should begin when Tech Prep planning begins. The first staff development activity can be used to create an awareness of Tech Prep and its goals and benefits. By implementing staff development activities up-front, commitment and support for Tech Prep can be sought from key individuals. As Tech Prep is accepted by staff, additional individuals should be involved in staff development activities on an ongoing basis.

In summary, staff development is a professional commitment designed to impact the greatest number of staff members who have responsibility for planning and implementing Tech Prep. Staff development is even more of a commitment for individuals who are leading a Tech Prep initiative since they are ultimately responsible for its success.

Success Stories

Tech Prep planners at **Illinois Valley Community College and SRAVTE** recognized the importance of a comprehensive staff development plan for all individuals involved in Tech Prep. This plan involved a series of staff development workshops conducted throughout the spring semester of the planning year. Most workshops were scheduled for two hours and conducted after school. A variety of topics were covered in the workshops, which are presented on the following page. As a follow-up to each workshop, a synopsis was prepared and printed in a newsletter and disseminated to all participants and to all schools and businesses and industries in the district.

Staff development was a high priority for Tech Prep planning teams at **Rock Valley College and CEANCI**. Throughout the spring of 1991, inservice workshops were scheduled twice per month. To reward their participation, team members received a stipend of $625 and six graduate credit hours from Northern Illinois University for over 100 hours of training. Inservice workshop topics included team building, learning styles, cooperative learning, curriculum integration, and articulation agreements. During the summer months, the planning teams were involved in industrial internships and dialogues with different industries in the Rockford area.

Illinois Valley Community College/Starved Rock Associates for Vocational and Technical Education

Tech Prep Staff Development Workshops

Dates	Topics
January 31	Kick-off Meeting
February 21	Team Building
February 25	Change Agents & Activators
February 28	Technology: Terminology and Concepts
March 21	Focus Meeting
March 28	Focus Meeting
April 11	Performance Standards
April 16	Integration of Academic and Vocational-Technical Education
April 18	Employability Skills
April 25	Applied Mathematics/Applied Communications
April 29	Tour of Carus Chemical Co.
April 30	Cooperative Learning Styles
May 9	Transition Meeting

Articulated Curriculum

What's the Purpose?

An important part of the process of reviewing and revising curriculum for Tech Prep is articulation. The Task Force on Occupational Program Articulation (1989) defined articulation as a "planned process linking two or more educational systems to help students make a smooth transition from one level or program to another without experiencing delays or duplication of learning."

When curriculum is articulated, secondary and postsecondary curriculum are joined to make the total sequence of courses a functional whole. To accomplish this, all secondary and postsecondary levels must be reviewed with appropriate changes made at each level.

The reasons for articulating curriculum are directly related to the benefits resulting from the articulation effort. These benefits include:

- increased relevance of learning activities
- improved quality of graduates
- improved program outcomes
- improved faculty cooperation
- reduced program costs
- reduced duplication of programs

What to Consider

Articulation can include both horizontal and vertical approaches (Hull & Parnell, 1991). Horizontal articulation refers to transferring credit from one program to another within an institution or from one institution to another at the same level. Within an institution, technical and academic courses need to be horizontally articulated. Vertical articulation refers to transferring credit from a lower-level institution to a higher-level institution.

Several models exist for secondary/postsecondary articulation. Three of the prominent models are:

- Tech Prep Associate Degree (TPAD)
- advanced curriculum or advanced skills
- time-shortened or advanced-placement

While fairly similar in design and purpose, some distinct differences exist between these various types of secondary to postsecondary articulation models.

Highlights of the Articulation Models

- **Tech Prep Associate Degree (TPAD)**
  - Applied academics added in math, science, communications, and technology
  - Education focused on applications in broad career cluster areas
  - Intense technical education specializations developed last two years
  - Advanced curriculum benefits

- **Advanced curriculum or advanced skills**
  - Elimination of course redundancy
  - Addition of more advanced training
  - Graduation of students with higher-level skills
  - Maximum flexibility provided students
  - Various exit options offered

- **Time-shortened or advanced-placement**
  - Repetition of courses eliminated
  - Advanced placement in postsecondary program granted
  - Postsecondary credit for accomplishments at the secondary level granted
  - Postsecondary program completed in less time

Tech Prep Associate Degree (TPAD) models are a rigorous approach to secondary/postsecondary articulation. This model adds the concept of applied academics (i.e., integrating academic learnings from math, science, and communications areas with technical education) to the advanced curriculum articulation approach. Beginning in high school, students participate in applied academic coursework in the areas of math, science, communications, and technology. A minimum of two years of secondary education followed by two years of postsecondary education is required for the TPAD. The focus of the education remains on the application of academic and technical concepts in broad career cluster areas. More intense technical education specializations are developed during the thirteenth and fourteenth postsecondary years in a wide variety of areas linked to vocational-technical education.

Success Story

The approach at **West Central Region of Education for Employment and John Wood Community College** was the TPAD model, which emphasized applied math, science, and communications courses. Applied academic and technical concepts were developed in broad career cluster areas based on input and data from local businesses and industries. The emphasis was on showing the relevancy of academic skills in the workplace. In addition, integration of math, science, and communications into existing technical classes was a priority.

Advanced curriculum models include 2+2, 4+2, 2+2+2, and 4+2+2. These models tend to be highly coordinated and sophisticated in the sequencing and structure of courses provided between the various levels of education. The 2+2 and 4+2 programs are based on a continuous 4- or 6-year curriculum covering the ninth or eleventh through fourteenth grades. The 4+2 model used by many of Illinois' initiatives gives students the flexibility to switch programs easily and much later in their secondary school experiences.

The 2+2+2 model refers to a six-year plan beginning with the first two years at the secondary level, the second two years at the community college, and the last two years at a four-year institution. This model offers students several exit options including a diploma, applied associate degree, or bachelor's degree.

The 4+2+2 plan provides a comprehensive secondary to postsecondary articulation program for the secondary level (grades 9 through 12), the 2-year college level (grades 13 and 14), and the remaining two years at the 4-year college level (grades 15 and 16). Successful advanced curriculum articulation programs often have joint facilities, faculty, advisory committees, and program directors. In many cases, students can also exit the programs with a certificate or degree at the end of grades 12, 13, or 14.

Success Story

At **Parkland College and Champaign-Ford Vocational System**, a 2+2 business Tech Prep initiative leading to an associate degree in marketing was planned. Articulation between Parkland and its high schools included integrating academic and technical content. In addition, a 4+2+2 articulation model was developed for industrial technology with three local high schools, Parkland, and Illinois State University.

Time-shortened or advanced-placement models provide students with credit or advanced standing for postsecondary requirements completed before high school graduation. As a consequence of enrolling in time-shortened programs, students can usually complete their applied associate degrees in less than the standard two-year period. This model is the least complicated form of articulation activity because it lacks an emphasis on integrated curriculum required of the TPAD articulation approach.

Success Story

At **Elgin Community College and Northern Kane County Regional Vocational System**, high school students were enrolled in community college classes in CAD drafting and automotive technology for Tech Prep. Honor points were granted by the high school to students completing community college courses. Future plans are to offer Tech Prep college credit to students receiving a grade of C or better in certain high school programs meeting the established requirement. The college credit will be held in escrow until the student satisfactorily completes the subsequent community college courses. Tech Prep planners envision this initiative as a capstone program that will encourage students to invest early in acquiring math and science skills.

Practices for Successful Articulation. To ensure the success of the articulation effort, planners should incorporate essential practices that result in fully-articulated TPAD initiatives.

Practices for Successful Articulation

- Gain leadership and commitment from the top
- Involve faculty early
- Focus on mutual goals
- Promote effective communication
- Prepare written articulation agreements
- Build relationships based on mutual trust

In identifying specific curriculum to be articulated, several questions should be answered.

- Will the articulated curricula be a single program (e.g., CAD) or several programs comprising a career cluster area (e.g., engineering technology)?

- Will the articulated curricula be an advanced-placement model, an advanced-curriculum program, or a TPAD model?

- How will the articulated curricula incorporate applied academics?

- Will the articulated curricula be a 2+2, 4+2, 2+2+2, or some variation?

- Will an elementary or junior high school component be added?

Who to Involve

Successful articulation results when key individuals are involved in designing and developing the articulated programs. Individuals to involve in articulating technical and academic programs within an institution as well as programs between institutions are:

- secondary and postsecondary academic and technical faculty
- secondary and postsecondary guidance counselors
- secondary and postsecondary administrators
- EFE system directors

When to Begin

Efforts to articulate technical and academic programs within a school district and between partnering schools should begin early in the planning of the Tech Prep initiative. As soon as commitment to Tech Prep is gained from key individuals, the focus should turn to designing and developing an articulated curriculum. As Tech Prep initiatives are expanded in future years to include additional cluster areas, the articulation process will be an ongoing effort for schools and their Tech Prep planners.

Curriculum Development

What's the Purpose?

A Tech Prep curriculum is unique in that it is intended to prepare students for a lifetime of learning as well as with the skills and competencies necessary to meet employers' performance standards for entry-level jobs and career advancement. A framework for the Tech Prep curriculum should consider:

- philosophy and goals of Tech Prep
- students served
- instructional and support staff
- curricular arrangements
- employment settings
- content coverage
- technical education
- academic education
- applied learning activities

Academic and technical educators must be jointly involved in each other's curriculum development efforts to create a fully integrated TPAD approach. As the curriculum is developed, it is important to build quality into the finished product--the *graduate*. To ensure that a quality student is the outcome of Tech Prep, a curriculum must be designed to be fully-articulated, student-oriented, explicit in its outcomes, and matched to employer needs. Various ways of determining content to include in Tech Prep curriculum can be considered. Four ways to do this are:

- evaluate the existing curriculum and continue successful practices
- modify or customize the existing curriculum for Tech Prep
- develop new curriculum
- adapt a new curriculum (e.g., Principles of Technology)

A list of relevant questions to consider in determining content for Tech Prep follow.

- What technical skills are needed to make students successful in a career?
- What math, science, communications, and social science content is needed to make students successful in a career?
- What basic content coverage, if any, is required for certification?
- What dollars are available for equipment, resources, and supplies?
- What employability level is expected of graduates of Tech Prep?
- Which experiences may be best obtained in the work setting?
- For which technical areas will graduates be prepared?

Integration of technical and academic education is critical to the success of Tech Prep. Roegge (1991) provides guidance on integrating technical and academic education in Illinois. One important strategy stressed by Roegge is common planning time. Instructors involved in Tech Prep need common planning time to facilitate joint planning of curriculum and teaching strategies. This encourages the integration of technical and academic instruction, which is the key to the success of Tech Prep.

Various strategies are evolving as viable approaches for integrating academic and technical education. Specifically, eight models for integrating academic and vocational-technical programs have been identified by Grubb and others at the National Center for Research in Vocational Education (Brown, Bohns, & Gardner, 1991).

Vocational and Academic Integration Models

Model	Characteristics
Incorporate academic competencies into vocational courses	• Simple • Not yet proven effective
Combine efforts of academic and vocational teachers to incorporate academic competencies into vocational courses	• Academic and vocational teachers work jointly to modify progress • Ongoing interactions are beneficial
Make academic curricula more vocationally relevant	• Uses vocational-oriented examples • Effectiveness depends on who is involved
Modify both academic and vocational curricula to be more compatible	• Creates sequences of courses that reinforce each other • Considers entire programs rather than individual courses • Offers greater flexibility
Use "academies" combining teachers of math, science, English, and vocational courses	• Teachers remain with a group of students for duration of their programs • Expensive so rarely used • Reduces dropout rates • Useful for special needs learners
Replace conventional academic and vocational departments by organizing around occupational clusters	• Facilitates cooperation among teachers • Encourages academic teachers to incorporate a vocational emphasis

Vocational and Academic Integration Models (cont.)	
Model	Characteristics
Encourage single-occupation institutions to focus efforts on integrating academic and vocational education	• Rarely used • Positively impacts occupational content of courses
Maintain conventional academic and vocational departments which organize students and teachers into career paths	• Not yet well-developed • Has potential to pull teachers out of isolation • Creates meaningful ties with employers • Produces organized clusters of interdepartmental courses • Well-suited for comprehensive high schools

Incorporating Applied Curricula. Applied academics are the foundation of effective Tech Prep initiatives. Applied academics can be defined as a way of presenting subject matter so that a particular academic discipline, such as mathematics, science, or English, is integrated with practical, work-related, hands-on applications.

Some Tech Prep planners have selected existing applied academic curriculum materials for their Tech Prep initiatives, while others are developing curriculum materials to use in the classroom. However, all Tech Prep planners are recognizing the importance of combining technical and basic academic subjects.

Success Stories

At **Illinois Eastern Community Colleges, the Twin Rivers Regional Vocational System, the Edwards/Wabash/Wayne/White Vocational Systems, and the Clay/Jasper/Richland Regional Vocational System**, the delivery of basic academic courses has been modified to include more applications and better integration of technical and academic content. At least two participating high schools have selected the applied communications and applied math curriculum modules.

Rock Valley College and CEANCI have involved teams of teachers, counselors, and business industrialists in developing curriculum materials for classroom use. The emphasis has been on building practical, work-related applications for academic subjects.

The philosophy at **Joliet Junior College and TREES** has emphasized effective integration of academic and technical subject areas. Joliet's Tech Prep project director stated three important points to remember in developing curriculum for Tech Prep.

- Take time to effectively plan the curriculum.
- Involve business representatives in the planning and development of curriculum.
- Make a serious attempt to integrate academic with technical subjects.

Who to Involve

One way to approach curriculum review is to form a curriculum development committee with responsibility for changing the curriculum. The curriculum development committee's job is to:

- review the needs of the community
- review the current curriculum
- identify and eliminate duplication of courses
- modify existing courses
- recommend new courses
- develop new courses and/or curriculum

If the curriculum development committee approach is taken, who should be identified to serve on this committee? Ideally, the curriculum development committee consists of highly-respected representatives from secondary schools, postsecondary institutions, and business, industry, and labor organizations. Specifically, these representatives are:

- academic faculty
- technical faculty
- guidance counselors
- administrators
- EFE system directors
- employers and employees

In some cases, it may not be practical or feasible to involve all these individuals. At a minimum, the committee should include academic faculty and vocational-technical faculty from both secondary and postsecondary institutions working toward articulating the academic and technical curriculum.

Responsibility for curriculum review at the **Career Development System and South Suburban College** was assumed by senior faculty and department chairpersons. These individuals worked on curriculum integration for math and science by reviewing the content of specified courses and identifying and categorizing all workplace-based problems, examples, applications, and activities. From this, a data base was being developed for use by all academic and technical faculty.

At **Rock Valley College and CEANCI**, curriculum development was the responsibility of teams of technical and academic faculty and guidance counselors. With assistance from business industrialists, these teams worked together to develop activities to integrate academic and technical subjects with workplace applications.

Each of the three pilot high schools and colleges involved in Tech Prep at **Illinois Eastern Community Colleges, the Twin Rivers Regional Vocational System, the Edwards/Wabash/Wayne/White Vocational Systems, and the Clay/Jasper/Richland Regional Vocational System** involved a team in reviewing current curriculum content and suggesting changes to develop better integration. These teams consisted of academic faculty, technical faculty, and guidance counselors.

When to Begin

The design and development of curriculum for Tech Prep should begin right away with the initial planning efforts. As a local philosophy is developed, planners need to make decisions about curriculum. Academic and technical faculty should be involved as soon as possible to ensure that meaningful, application-oriented, and integrated curriculum is ready for implementation. Of course, curriculum development can take place throughout the entire planning year and continue into the implementation phase as field testing and improvements are made to refine the integrated curriculum.

Written Agreements

What's the Purpose?

Written agreements are the result of Tech Prep planners' efforts to design and develop a fully-articulated curriculum. Written agreements solidify the commitment, intent, and working relationships among all participating schools, colleges, and business, industry, and labor organizations. As agreements are reached about institutional participation in Tech Prep, business, industry, and labor participation, program articulation, and course articulation, Tech Prep planners should prepare and sign written agreements.

What to Consider

Hull and Parnell (1991) suggest two types of written agreements. These two types are:

- executive articulation agreements
- administrative articulation agreements

Executive Articulation Agreements can be simple letters or more formal agreements of commitment to participate in Tech Prep. Once executive leaders of participating institutions and partnering business, industry and labor organizations agree on Tech Prep goals, a written statement of their intent should be drafted and signed. Areas to include in these agreements are:

- a definition of the Tech Prep concept and its options
- names of participating educational institutions
- names of participating business, industry, and labor organizations
- level of involvement of each institution/organization
- specific occupational cluster area(s)
- a beginning date
- staff from each institution to be involved
- internship, work experience, and employment opportunities for faculty, students, and graduates

Administrative Articulation Agreements should provide a more detailed outline of specific responsibilities, roles, programs, and courses for articulation. Key items to include in these agreements are:

- a statement of purpose and goals
- details of the working articulation procedure
- specific courses to be articulated
- required proficiency levels and performance standards
- the period of time the agreement is in effect
- equivalent credits to be granted
- responsibilities of staff involved
- time limitations for granting credit

Who to Involve

Responsibility for ensuring the preparation of written agreements is typically assumed by the Tech Prep project director with the involvement of key individuals. For example, CEOs of participating institutions and businesses are responsible for preparing and signing executive articulation agreements. In most cases, school and college administrators are responsible for signing administrative articulation agreements. Of course, these administrative articulation agreements are the end-product of technical and academic faculty working together to coordinate courses and programs. Key individuals to involve in preparing written articulation agreements are:

- CEOs from participating businesses and industries
- secondary superintendents, principals, and vocational directors
- postsecondary college presidents, career deans, and instructional deans
- Tech Prep project director and/or coordinator
- EFE system directors
- secondary and postsecondary academic and technical faculty
- secondary and postsecondary guidance counselors

When to Begin

Coordination and articulation among institutions, programs, and courses must begin early in the Tech Prep planning process. The actual preparation and signing of written agreements requires very little time. However, what is contained in these agreements takes a great deal of time to develop and finalize and is the culmination of a tremendous amount of time and work of academic and technical faculty.

Success Story

At **Illinois Central College (ICC), Peoria Educational Region for Employment and Career Training, Tazewell County Area EFE Regional System, and Central Illinois Vocational Education Co-op**, key people involved in the articulation process were EFE system directors, the Tech Prep project coordinator, the Dean of Career Education, college faculty, and high school teachers. The process used to develop articulation agreements involved ICC defining the competencies taught in business courses. These competencies were submitted through the Board of Control to high schools. High school academic and technical faculty determined the degree to which the basic competencies were addressed in their courses. Using consensus building, the groups negotiated general terms and conditions of the program and course articulation agreements.

The agreements contained:

- specific courses for which the college will give credit (e.g., students receive credit if they complete secondary accounting/bookkeeping courses with a grade of A or B)
- equivalent credits granted by the college (e.g., students taking accounting/bookkeeping receive credit in a specified accounting course)
- procedures and time limitations for granting credit
- the period of time the agreement will be in effect
- the date for annual review and modification

Tech Prep planners anticipate that it will take up to five years to complete articulation agreements across the technical curriculum. They described the process as similar to "building a long-term marriage." It is a day-by-day, ongoing process that builds a good relationship among technical and academic faculty and their participating institutions. Tech Prep planners at ICC made several important recommendations for individuals developing written agreements.

- Appoint a small group of academic and technical faculty from participating institutions to work on written agreements. Ask program chairpersons to suggest faculty to participate.
- Provide sufficient time for academic and technical faculty to meet.
- Provide incentives for academic and technical faculty to participate, recognizing that after-school meetings are a disincentive for many faculty.
- Consider the facilities and equipment available at the secondary and postsecondary institutions.
- Involve business and industry actively in the process.
- Provide internships in business and industry to acquaint academic and technical faculty with the work environment and its requirements.

Guidance and Counseling

What's the Purpose?

Guidance and counseling is an integral part of a comprehensive Tech Prep initiative. Similar to other components of Tech Prep, the guidance and counseling component must be planned with input from representatives of participating institutions and surrounding community. The success of Tech Prep is determined largely by whether collaborative planning approaches involving counselors, faculty, students, parents, and other key groups are effective. Through collaboration, counselors can play an integral part in designing Tech Prep initiatives that provide information and resources required by students to be successful. *It is essential for counselors to be involved in planning from the beginning.*

In order for counselors to help students plan a successful Tech Prep program of study, they need to clearly understand Tech Prep course sequences and help students understand the meaning of work in terms of its importance to their lives and the satisfaction it can bring them. Counselors can also help students understand that choosing an occupation is usually not a once-in-a-lifetime decision. Tech Prep is developed around career clusters, thereby opening up career options rather than limiting them.

Tech Prep initiatives in Illinois involved counselors in planning and staff development. At various planning sites, counselors disseminated information about and built ownership in Tech Prep in their schools and colleges. In addition, counselors were involved in tours of business and industry, curriculum planning teams, and other activities to increase their understanding of today's workplace. Based on these experiences, counselors felt they were better prepared to communicate with students, parents, teachers, and other counselors about Tech Prep. Further, they were better able to help students see what Tech Prep is all about.

What to Consider

Counselors, along with other key groups involved in implementing Tech Prep, have a very important but sensitive role to play in educating students about the initiative. Whereas it is not the role of counselors or any other key groups to track students into Tech Prep, it is important to educate and counsel students about the purpose and potential benefits of participation in Tech Prep. Students must receive the kind of information they need to make appropriate decisions concerning participation in Tech Prep.

Counselors can help students understand Tech Prep and how it fulfills their personal, career, and educational aspirations by assisting them to:

- clarify their values
- assess their interests and aptitudes
- gather information on the workplace

- analyze their school and non-school experiences
- make a well-informed decision about participating in Tech Prep
- progress successfully through Tech Prep

Roles and Responsibilities of Counselors

- Communicate local Tech Prep philosophy and policies
- Counsel students about participating in Tech Prep
- Assist in developing Tech Prep components
- Assist in designing work-based learning experiences for integrated academic/technical curriculum
- Assist in developing valid and fair Tech Prep selection criteria
- Assist in marketing Tech Prep to students, parents, teachers, and others
- Solicit and review student applications for Tech Prep
- Assist in reviewing and improving local philosophy and policies
- Assist in maintaining relationships with business and industry

Counseling Approaches. There are a number of ways to counsel students about whether or not to participate in or progress through Tech Prep. First, counselors can assist students to assess information about Tech Prep in light of their personal values. When student needs match Tech Prep goals, counselors can help students understand how Tech Prep can help them achieve what is important to them. When there is a mismatch between Tech Prep goals and student needs, counselors can help students choose other educational options.

Second, counselors can recommend that students formally assess their interests and aptitudes and gather information helpful in career planning. Counselors can help students use this information in planning their educational programs, including choosing among alternative Tech Prep options.

Third, counselors can work with students to help them gather information about the workplace, thereby helping them identify and select among Tech Prep options. Information on career and educational opportunities is essential if students are to make informed decisions about Tech Prep.

Fourth, counselors can encourage students to reflect upon their school and non-school experiences to help them understand how their interests and prior experiences can contribute to success in Tech Prep. Reflection can help students identify competencies they must have to be successfully employed and competencies attained, thereby helping them plan successful Tech Prep programs of study.

Who to Involve

Leadership for the guidance and counseling component must come from school and college counseling staff, in conjunction with Tech Prep project leaders. In order to develop an effective guidance and counseling component, it is important to involve representatives from key groups (e.g., faculty, students, parents, and employers) in the planning process.

When to Begin

Development of the guidance and counseling component typically begins early in the planning process to facilitate educating faculty, students, parents, and others about an upcoming Tech Prep initiative. In some school systems, information about specific courses and admission requirements must be available in the fall for publication in school and college materials for the next school year.

Success Stories

There was general agreement about the importance of counselor participation in Tech Prep at **Joliet Junior College and TREES**. At Joliet, counselors played an important role in helping students clearly understand Tech Prep from a hands-on perspective. A counselor said, "It is not enough for guidance counselors to simply *tell* students about Tech Prep. Rather, students need to *see* what Tech Prep is all about." To make students more aware of technical careers, this counselor encouraged prospective students to tour the College's facilities.

Career guidance counselors were selected as Tech Prep coordinators in high schools associated with the initiative of the **Northwest Suburban Career Cooperative and William Rainey Harper College**. Their goal was to ensure that every teacher, college instructor, counselor, and student in the district knew about Tech Prep. The coordinators developed marketing plans, counseled students, coordinated open houses in business and industry, arranged field trips, and informed parents about Tech Prep. A counselor at one high school explained that a key to being an effective Tech Prep coordinator is understanding the value of Tech Prep and how it fits with other parts of education. The counselor added that it is critical to be personally sold on the concept before trying to educate others about it.

The student services committee, comprised of guidance and counseling representatives and others from the junior high to college level, was an important feature of the initiative of the **Career Development System and South Suburban College**. The committee was instrumental in conducting a college/career expo and planning other Tech Prep activities. Project leaders indicated that this committee, which preceded the Tech Prep initiative, provided a valuable link between the three districts' high schools and South Suburban College. The committee conducted a needs assessment to identify critical tasks and activities for Tech Prep.

Marketing

What's the Purpose?

Effective marketing plans are as critical to the success of Tech Prep initiatives as are relevant, rigorous instructional programs. Tech Prep can be thought of as a new product or service. The Tech Prep concept, its benefits, and values must be marketed to administrators, faculty, counselors, local businesses and industries, students, parents, local government agencies, and the public. Tech Prep is a means of changing education to meet the needs of the changing workplace and society. Therefore, marketing of Tech Prep cannot be a one-time or hit-or-miss activity. It should contain specific marketing plans for both internal (i.e., within the educational system) and external (i.e., outside the educational system) audiences.

What to Consider

Marketing Tech Prep effectively means showing how it is worthwhile and successful. To accomplish this requires marketing expertise, time, and money. Specific marketing activities need to be designed for the needs of internal and external audiences. Marketing efforts for both audiences should include:

- developing a marketing plan
- developing promotional materials
- delivering the Tech Prep message effectively

In developing a Tech Prep marketing plan, it is important to target specific audiences by emphasizing benefits most appealing to those audiences. The basic message should be the same for all audiences, however the details, packaging, and delivery must be tailored to suit each audience.

Internal Audiences. The first audience to target is internal. This audience includes:

- college presidents
- college career and instructional deans
- college academic and technical faculty
- college guidance counselors
- EFE system directors
- secondary school superintendents and principals
- secondary vocational directors
- secondary academic and technical teachers
- secondary guidance counselors
- boards of trustees members
- secondary school board members
- student participants

It is critical for these individuals to understand the Tech Prep concept and take ownership for it. Activities appropriate for marketing Tech Prep to internal audiences are:

- kick-off meetings to explain the Tech Prep initiative to faculty and staff
- staff development workshops
- tours of local businesses and industries
- formal presentations
- tours of participating school and college facilities
- video/slide presentations
- faculty meetings

Marketing Tech Prep to secondary and postsecondary groups is only the first step in a comprehensive marketing effort. Once understanding and commitment are gained from internal audiences, efforts can be directed toward external audiences.

External Audiences. Those individuals and/or groups of individuals to whom external marketing activities are directed include:

- future students
- parents
- business, industry, and labor representatives
- community groups and agencies
- the general public

Marketing activities to consider for external audiences are:

- newspaper articles about the Tech Prep initiative
- press releases about the local initiative
- direct mailers to students
- workshops for employers
- tours of school and college facilities
- television and radio interviews with Tech Prep planners
- formal presentations
- open houses for the general public
- radio ads
- videos explaining Tech Prep
- pamphlets/brochures
- career days/career nights
- tours of local businesses and industries
- slide presentations
- school newsletters
- promotional items

These marketing activities certainly do not make a complete list. Other strategies need to be developed by local Tech Prep initiatives. However, as with any marketing effort, timing and consistency are important. To be successful, Tech Prep requires a consistent and continuous marketing effort, even after implementation.

Effectively marketing Tech Prep means showing the program is worthwhile and successful. Professionally-designed materials, ongoing presentations and meetings about Tech Prep, and continuous communication between partnering institutions all contribute to this goal. Ultimately, however, the single most important promotional tool is word-of-mouth. Every part of the marketing plan should promote, support, and reinforce that positive one-on-one communication.

Who to Involve

Ultimately, everyone associated with a Tech Prep initiative plays a role in marketing it. As Tech Prep initiatives develop and evolve over time, more individuals will have positive experiences to share with others in their school, college, and community.

Internal marketing activities may initially fall on two or three individuals--the Tech Prep project director or coordinator, a college dean, an EFE system director, a vocational director, or an interested faculty member. As these individuals develop understanding and acceptance, they can recruit others in their sites and garner support from individuals outside the educational setting.

Responsibility for marketing Tech Prep externally may be assigned to a marketing or promotion committee. The marketing or promotion committee could include:

- the Tech Prep project director and/or coordinator
- secondary and postsecondary guidance counselors
- secondary and postsecondary technical and academic faculty
- business, industry, and labor representatives
- secondary and postsecondary administrators
- EFE system directors
- students
- parents

The business community can assist tremendously in promoting Tech Prep by making presentations to civic organizations, other business, industry, and labor representatives, school staff, parents, and students.

School counselors can help significantly by talking to students and parents about Tech Prep and the various opportunities it provides.

Academic and technical faculty also play a critical role in selling Tech Prep to students by incorporating work-based examples into academic subjects and by showing the relevancy of academics in technical classes.

Finally, teams made up of graduates of Tech Prep initiatives can become marketers to other students by sharing their school and work successes.

When to Begin

The marketing plan should be developed in the early stages of the Tech Prep planning process. Appropriate marketing strategies and activities should be identified and reinforced with specific timelines. Marketing strategies and activities can be implemented once the initiative is laid out. Public relations activities should be strategically timed to keep new information available to the public on a consistent basis. Most importantly, marketing activities cannot stop once Tech Prep is implemented. The marketing plan should be reviewed annually and revised as Tech Prep evolves and expands. Spreading the word about Tech Prep must happen on an ongoing basis.

Success Stories

Northwest Suburban Career Cooperative and William Rainey Harper College carried out an extensive Tech Prep marketing effort. During 1990-91, many creative marketing activities were instituted.

- Mailers were sent to approximately 30,000 of the district's high school students.
- Meetings were scheduled to explain the benefits of Tech Prep to academic and technical faculty.
- Presentations were made to local businesses and industries and local school board members.
- Tech Prep coordinators shared the message about the initiative in each high school.
- Video and slide presentations were made to academic and technical faculty, guidance counselors, and students.
- Brochures were developed and disseminated.
- Letters targeting students with GPAs between 2.0 and 3.3 were mailed.

Marketing activities for the coming year include:

- developing a team of trained speakers to share information with 8th-grade students and their parents
- involving business and industry representatives in disseminating information about Tech Prep
- increasing internal marketing efforts to solicit more involvement by school staff

- linking career development in junior high schools to Tech Prep

- planning a regional career development fair to include information on Tech Prep

Based on their experience with marketing Tech Prep, planners at Northwest Suburban Career Cooperative recommended:

- beginning Tech Prep marketing efforts early
- identifying influential people to help communicate Tech Prep
- keeping everyone, especially parents, informed and involved
- reinforcing Tech Prep in numerous ways

Illinois Eastern Community Colleges (IECC), the Twin Rivers Regional Vocational System, the Edwards/Wabash/Wayne/White Vocational Systems, and the Clay/Jasper/Richland Regional Vocational System focused their marketing plan on:

- designing and distributing promotional items to high school students, including paper sunglasses with the Tech Prep logo

- scheduling a "Tech Prep career day" for eighth-grade students and incoming high school freshmen

- designing a Tech Prep brochure for distribution to students and parents

- encouraging dialogue among academic and technical teachers and between teachers and students about Tech Prep

- providing business experiences for academic and technical teachers, guidance counselors, and administrators

- distributing a monthly newsletter to all secondary and college faculty in the district

The Tech Prep project coordinator at IECC recommended being creative and *not* automatically discarding ideas because they seem far out. Rather, all ideas should be seriously considered--even ones that seem crazy at first. Some of the best marketing campaigns have resulted from some wild ideas.

Business/Industry Collaboration

What's the Purpose?

Tech Prep recognizes the importance of developing education and private-sector partnerships to ensure work-relevant learning experiences for students. Skills demanded by today's businesses and industries are not limited to advanced technical skills but include strong academic and interpersonal skills. Business, industry, and labor representatives should be involved in defining needed competencies and skill levels and establishing performance standards for Tech Prep students who will be their future employees. To better prepare students for the workplace and for life, education and the private-sector must collaborate and coordinate educational and work experiences.

What to Consider

Business, industry, and labor representatives can be involved with partnering educational institutions in a variety of ways. Business and industry representatives involved in Illinois' Tech Prep initiatives suggested ways they could assist with Tech Prep. They are:

- providing students with work-based knowledge and skills
- providing tours of their facilities
- hosting open houses
- making classroom presentations
- providing work experience opportunities for instructors and counselors
- providing work-based learning experiences and internships for students
- participating as team teachers
- teaching classes in their settings
- providing or loaning equipment
- speaking at career days or other special events
- assisting in determining performance standards
- agreeing to priority hiring for graduates
- sponsoring scholarships for students
- guaranteeing placement of qualified graduates
- providing industry training for instructors and counselors

Tech Prep initiatives are most successful when work experiences are provided for students. The type of work experience selected depends on various internal and external factors. Things to consider are:

- grade level of students who will participate
- specific program areas of concentration
- school or college location
- number of available business/industry sites
- types of businesses and industries in the district
- level of participation by business/industry sites
- availability and cost of transportation

There are several types of work experiences to consider when planning a Tech Prep initiative.

Alternative Work Experiences

- Internships
- Apprenticeships
- Cooperative education programs
- Shadowing
- Mentoring
- Part-time work experiences

Internships operate as either paid or unpaid experiences. Internship experiences may be more appropriate and meaningful for students when offered during the summer months. Summer internships can provide more intensive work experiences, which allow students to feel and act like regular employees. Other short-term or part-time internships provide a good overview of business and industry and a sense of work life. As stated in the Local Policies section of this chapter, planners should keep in mind the "12 hour rule" when designing internships.

Apprenticeships are prescribed learning experiences in which an individual, called an apprentice, learns a specific trade through several years of on-the-job training and related instruction (U.S. Department of Labor, 1984). On-the-job training covers all aspects and parts of a particular occupation. Related instruction can take place in a classroom or through home-study courses. The instruction covers the techniques of the trade and also the theory behind the techniques. Classes are taught by experienced craftworkers and other skilled persons and can be scheduled during the day or evening.

Cooperative Education Programs are also considered a form of work-based learning. Cooperative education programs combine classroom activities with actual work experiences. Generally, students are enrolled in school for a half day and are employed the other half day.

Shadowing provides students with opportunities to observe many workers in a variety of different jobs in business and industry settings. Shadowing experiences may be most suitable for students who are beginning the Tech Prep initiative. The length of shadowing experiences may vary from a one-time, one-hour experience to full-day experiences over several months. Students are usually not paid for shadowing experiences.

Mentoring pairs a student with an adult trained worker, preferably from the student's chosen career field. This experience clearly shows students the practical, work-related application of what they are learning in the classroom. Mentoring assists students in making a smooth transition from school to the world of work. Also, mentoring can assist students in deciding whether the career path they've selected is suitable for them.

Mentoring programs can be designed to meet the needs of particular students, schools, colleges, and businesses as well as to address particular program goals. Mentoring relationships may be continued throughout students' participation in and completion of Tech Prep. Ultimately, mentoring programs should benefit everyone, including students, teachers, other school personnel, and business, industry, and labor representatives.

Part-time Work Experiences may be offered to Tech Prep students after school, on weekends, or during summers. Part-time work can provide students with an introduction to the work environment and the general operations of a business organization. Of course, part-time work experiences should correspond with classroom instruction, involving an employer as an instructor or team teacher.

Special Issues. Tech Prep planners suggested several issues involved in designing work-based learning experiences for students. Whereas these problem areas were viewed as serious, most planners were able to develop strategies to overcome them and create meaningful work experiences for students. Two issues concerned the following:

- Whether students under age 18 can gain experience in manufacturing since labor laws prohibit them from working with hazardous equipment.

- Whether a sufficient number of internships are available in a rural, widely dispersed district, such as Illinois Eastern Community Colleges' district, or in an economically depressed area, such as a portion of the South Suburban College district.

Other concerns cited by Tech Prep planners include:

- how fluctuations in the economy affect business' ability to provide work-based experiences for students over time

- whether some businesses and industries will view work-based experiences as a means of gaining cheap labor

- whether commitments can be gained from business and industry employees to serve as mentors and supervisors for interns

- whether students will commit to unpaid summer internships and other work-related experiences given that many students need paid employment during the summer

Who to Involve

Key school and college staff participating in Tech Prep planning should be involved in collaborating with business, industry, and labor representatives to encourage their early participation and continued involvement in the initiative.

The success of Tech Prep certainly depends on a high level of involvement early on, especially from top leaders of business, industry, and labor.

Secondly, it is important to ensure that individuals or groups involved in the planning process take responsibility for student work experiences. Three examples of ways to handle work experiences are:

- **Business, industry, and labor representatives.** At **Rock Valley College and CEANCI**, work experiences evolved from commitments made by business industrialists who assisted the planning teams.
- **A subcommittee of the planning team.** At **Danville Area Community College and the Vermilion County EFE System**, a subcommittee of Workforce Challenge 2000 designed and developed internship programs for students.
- **A newly-formed committee.** At **Illinois Eastern Community Colleges, the Twin Rivers Regional Vocational System, the Edwards/Wabash/Wayne/White Vocational Systems, and the Clay/Jasper/Richland Regional Vocational System**, an Advisory Council, comprised of representatives from twenty businesses, was formed to work with other Tech Prep committees in designing and setting up appropriate work experiences for Tech Prep students.

When to Begin

Collaborating with business, industry, and labor must begin up-front in the planning process. In many cases, Tech Prep grant writers gained initial commitments from business, industry, and labor prior to writing proposals for Tech Prep initiatives. Tech Prep planners recognized how critical it was to gain interest and secure participation from these groups early on.

Tech Prep planners reflected on how enthusiastic business, industry, and labor participants became about Tech Prep after being involved in planning activities. The enthusiasm of these groups increased as their level of commitment and involvement heightened. It seemed that each success created a *snowball effect* as more and more employers wanted to participate in Tech Prep.

Success Stories

Tech Prep planners at **Elgin Community College and the Northern Kane County Regional Vocational System** developed a summer internship program for students enrolled in Tech Prep. Community college credit was granted to students participating in summer internship experiences, with the employers subsidizing community college tuition costs. The end benefit to employers is expected to be more qualified, better-trained prospective employees available for employment upon completion of their TPAD.

Collaboration with businesses and industries has been a priority for Tech Prep at **Northwest Suburban Career Cooperative** and **William Rainey Harper College**.

- A retired business executive has marketed Tech Prep to local businesses and industries and obtained their participation in planning the initiative.
- Business and industry sites have been used for Tech Prep planning meetings.
- Summer internships have been offered to academic and technical teachers, counselors, and administrators.
- Students have been provided with summer internships that pay comparable wages. First-summer internships have provided opportunities for career exploration. Second-summer internships are expected to focus on experiences in particular departments of a company.

Putting Tech Prep into Action

Putting Tech Prep into Action

What's the Purpose?

A Tech Prep initiative is put into action by:

- initiating each component
- monitoring the initiative as it evolves
- maintaining day-to-day routines
- anticipating possible barriers
- confronting barriers through problem solving
- collecting data on effectiveness

During the implementation phase, Tech Prep is put into place and perfected. It is not unusual for a comprehensive initiative such as Tech Prep to take from three to five years for complete implementation. Throughout this time, Tech Prep is continuously refined and improved. Implementation ends only when the initiative is in place and sustaining itself.

An actual implementation date should be set during the planning phase. Initial implementation can occur when students first enter Tech Prep classes. Of course, several components of Tech Prep (e.g., local policy formulation, curriculum development, marketing) are actually in the implementation stage by this time.

Things to Consider

Successful implementation requires employing the proper strategies and resources to ensure that Tech Prep functions effectively. Tech Prep planners shared ideas about barriers to the implementation of their initiatives. At the heart of many of their observations was the inevitable dilemma associated with resistance to change. Barriers and implementation strategies identified by a significant number of planners are shown on the following page.

Potential Barriers and Suggested Implementation Strategies

Potential Barriers	Implementation Strategies
Lack of commitment to Tech Prep	• Explain and sell the concept repeatedly • Involve key groups • Listen and share
Fear of losing vocational education programs and students	• Allow time for roles, policies, and attitudes to adjust • Expect some conflict • Allow time for team building • Monitor enrollments and course-taking patterns
Lack of clear implementation strategies	• Distribute a written action plan • Determine supplies, equipment, and other resources needed • Anticipate possible problems • Make contingency plans
Communication problems	• Develop mechanisms to share accurate and consistent information • Schedule staff development regularly • Schedule group discussions regularly • Assign a person to troubleshoot problems • Intervene in serious problems • Provide joint planning time for instructors
Lack of resources (time, people, materials)	• Outline resource needs early • Delegate duties • Set priorities • Start one program at a time • Use existing services, people, and materials • Solicit funding from business/industry, government agencies, or others
Difficulties articulating in large diverse areas	• Use site-based planning teams • Schedule centralized staff development for team leaders who, in turn, train local planners • Maximize input from local planners • Ensure review and feedback as initiatives are developed
Lack of credibility	• Allow time for Tech Prep to become established • Demonstrate top leader commitment • Publicize the benefits of Tech Prep • Carefully market the initiative • Assist students with support services to ensure their success

Strategies to Overcome Barriers to Change. There are many ways to increase the likelihood of successful implementation of a new educational initiative, according to Tech Prep planners. Ten strategies that can be useful in overcoming barriers due to changes created by Tech Prep are suggested.

1. **Communicate the vision of Tech Prep clearly, honestly, and enthusiastically**. State the benefits of Tech Prep to all key groups. Celebrate and publicize the first class day, career days, graduations, and other program accomplishments. Send out progress reports regularly.

2. **Keep the initiative moving**. Follow implementation plans that specify the key directions and the what, why, who, and when of Tech Prep. Develop program structures to ensure step-by-step implementation.

3. **Plan for the change created by Tech Prep from a solid conceptual base**. Early on, ask what this change will mean to students, faculty, high schools, colleges, and employers. Implement Tech Prep gradually. Involve one or a few curriculum areas at a time. Adopt practical, quality procedures to carry out Tech Prep.

4. **Build support among respected leaders**. Empower people to participate through team building and staff development. Allow time for team relationships to develop. Provide a mechanism to handle implementation problems (e.g., group sharing and problem-solving sessions). Make sure local secondary and postsecondary administrators and school boards are supportive of Tech Prep.

5. **Don't allow those who oppose Tech Prep to steer it off course**. Beware that opponents may use basic issues as a means to criticize Tech Prep. Some tactics to deal with opponents are to wear opponents down with Tech Prep information, wait them out, or involve them in important but less strategic parts of the initiative.

6. **Don't settle for rhetorical change**. Building and maintaining linkages with constituencies requires work. Tech Prep requires leadership commitment and personal investment of time and energy.

7. **Know the territory**. Learn everything there is to know about the communities and institutions participating in Tech Prep.

8. **Know the environmental factors**. Realize that Tech Prep is changing the culture of secondary and postsecondary institutions. Allow time for social restructuring within and between institutions.

9. **Be flexible in implementing the initiative**. Make changes as needed to improve the fit between Tech Prep plans and the "real" situation. Be willing to adjust, tune, and refocus.

10. **Remember that Tech Prep is most successful when those who are affected by it are involved in planning.** Imposing new programs on people nearly always results in failure. Making them a part of the planning process isn't easy, but it ensures more success in the long run.

Contingency Planning. Contingency planning helps deal with unexpected developments and opportunities. It involves planning ways to overcome barriers. Due to the comprehensiveness of Tech Prep, contingency plans may be needed in such areas as staffing, instruction, counseling, curriculum development, transportation, and facilities. It is important to consider the ways internal and external factors can interfere with implementation of Tech Prep. Some approaches that can be used to create contingency plans are to:

- monitor the status of the initiative using process and outcome measures
- identify trigger points that indicate when to use a contingency plan (e.g., budget variations)
- develop specific action plans
- build scenarios of possible economic issues and develop contingency plans for each

These concepts focus the planner's attention on a wider range of possible, unplanned events. Contingency planning can reduce response time when threats to Tech Prep occur and help to get the initiative operating effectively again.

Who to Involve

Individuals who play a part in planning Tech Prep should have a role in its implementation. Tech Prep initiatives, depending on their characteristics, can use one of several approaches.

- Develop specialized implementation teams for specific Tech Prep initiatives.
- Use implementation committees to make decisions about all aspects of implementation of Tech Prep.
- Assign implementation tasks to project leaders or delegate them to project support staff of the participating institutions.
- Establish Tech Prep committees to plan and develop the respective components of the initiative (e.g., a planning committee to supervise curriculum implementation).
- Develop a cross-hierarchical committee consisting of teachers, administrators, counselors, parents, and students to coordinate all aspects of implementation.

To varying degrees, these approaches introduce and involve all key groups. They provide a means to identify and confront situational constraints. They also attempt to understand the values, perspectives, and experiences of those who are essential to the implementation of Tech Prep.

When to Begin

It is important to begin thinking about implementation of Tech Prep from the very beginning of the project. Early definition of the implementation phase helps set parameters for the planning process by identifying the goals of the initiative and setting target dates.

Success Story

Several strategies were instituted to facilitate smooth implementation of Tech Prep at **Parkland College and the Champaign/Ford Vocational System**.

- Written articulation agreements were developed.
- A staff development session was held to orient teachers, counselors, and support staff to Tech Prep.
- Contingency plans were made for the three-week difference in calenders between participating high schools and Parkland College. Tours of local businesses and industries and sessions on career planning and employability skills have been planned for students.
- Students were selected by counselors based on criteria developed by Parkland College's Advisory Committee.
- The Parkland College campus was visited by students for an orientation tour prior to their beginning Tech Prep.
- A parent orientation was also planned.

Evaluating the Tech Prep Plan

Evaluating the Tech Prep Plan

What's the Purpose?

Local evaluation of Tech Prep determines the quality, effectiveness, and value of:

- planning, development, and implementation processes
- specific integrated curriculum
- the outcomes of Tech Prep
- the Tech Prep project

Ultimately, all aspects of a Tech Prep initiative must be directed toward achieving desired outcomes for students. It is essential that evaluation be used to ensure that the Tech Prep plan produces intended results for students.

Critical Elements of Tech Prep Evaluation

- Documenting the planning process and change that has occurred
- Linking objectives to learner outcomes
- Relating learner outcomes to performance standards
- Selecting evaluation methods
- Establishing ongoing, systematic evaluation strategies
- Ensuring the utility of evaluation results

Things to Consider

Evaluating the Planning Process. Mechanisms must be developed to provide constant feedback about the effectiveness and efficiency of the planning process associated with Tech Prep. Process evaluation can identify improvements and pinpoint adjustments in planning, development, and implementation that contribute to the overall quality of the initiative. Process evaluation can be conducted throughout Tech Prep planning, but it is especially important to undertake during the implementation and continuation phases. Its primary use is in detecting defects in program design early enough to correct them. The purposes of process evaluation may include:

- Monitoring program implementation and management to ascertain the quality of (a) resources; (b) procedures for academic and technical integration, instruction, and recruitment; and (c) organizational structure and operating procedures.

- Accurately defining problems and identifying their potential causes.

- Improving programs by developing solutions to problems.

- Studying the impact of solutions by systematically gathering data to determine the impact of program changes on identified problems. The status of the problems, effectiveness of implementation strategies, and intended and unintended results are reported to project leaders for future planning.

Evaluating Outputs of the Initiative. Evaluation should be used to determine the effectiveness of Tech Prep outputs as measured against clearly stated goals. It asks and answers three basic questions.

- Did Tech Prep produce the desired learner outcomes?
- Did benefits for students outweigh the costs of Tech Prep?
- Were the methods and approaches efficient and valuable?

Typically, evaluation is conducted at the end of an initiative to determine the degree to which performance standards are met, including determining student and graduate academic and occupational performance levels. Evaluation results also provide information to administrators for program management and improvement. Evaluation of Tech Prep outputs can include the following activities:

- Developing clear and measurable goals and assessing their relationship to a local vision and philosophy for Tech Prep.

- Utilizing program measures to quantify local program performance standards.

- Determining whether goals have been attained by evaluating expected and unexpected outcomes.

Ensuring Continuous Quality Improvement of Tech Prep. Planners must be concerned with the utility of evaluation results. Some ways to ensure evaluation results are used to improve Tech Prep are suggested.

- Build decision points into the initiative so that evaluation findings are needed to progress.

- Demonstrate to key groups how evaluation findings can be used to improve Tech Prep.
- Involve key groups in determining evaluation questions and planning and implementing evaluation procedures.
- Be open, frank, and clear in reporting findings.
- Provide interim reports and executive summaries to make evaluation results accessible.

Methods for improving quality are based on continuous feedback and data collected about the quality of processes, products, and services. The parallels are numerous between Tech Prep and business and industry quality improvement endeavors.

A quality Tech Prep initiative provides educational services to meet the needs and expectations of its many clients (e.g., students, employers, faculty). Planners can use process evaluation findings to identify problems that interfere with providing quality products and services. Administrators can promote quality initiatives by organizing staff to study problem areas and plan and implement improvement strategies. The goal of quality improvement is continuous recognition and eradication of errors in producing qualified graduates and in performing services for the identified stakeholder groups. Two methods for implementing continuous quality improvement in evaluating Tech Prep follow.

Improving Service Quality. This method concentrates on improving the quality of services provided to clients. The strategies used to ensure quality are developed from evaluation data and are built into the everyday operations of Tech Prep. This method promotes the use of evaluation data and demonstrates how to provide continuous quality services to clients.

Five operating strategies for creating distinctive service can be applied to Tech Prep programs.

1. Listen, understand, and respond to clients through face-to-face interactions, graduate follow-up, employer follow-up, and other evaluation methods.
2. Determine the characteristics of a superior Tech Prep initiative for your community, based on client needs and by establishing an ongoing strategy for obtaining the identified level of services needed.
3. Set performance standards and measure performance in accordance with client needs. In this strategy, clients do not judge the technical aspects of the program, but whether or not the program met their expectations, whether or not outcomes were attained, and how they were treated.

4. Select, train, and empower internal groups (e.g., faculty and counselors) to work for clients.

5. Recognize and reward accomplishment and quality.

These strategies tie Tech Prep outcomes to interpersonal experiences. It explores the client's satisfaction levels and broadens evaluation beyond a traditional outcomes approach.

Improving Program Quality. This process involves collecting data and monitoring many variables inside and outside of all participating institutions. Data are used to guide the search for better performance of a total Tech Prep initiative. This process follows a universal planning guide.

- Establish quality goals.
- Identify clients.
- Determine client needs.
- Develop processes required to ensure desirable outputs.
- Establish evaluation systems to maintain the quality of the processes.

Eight Strategies for Building Quality Goals into Tech Prep Initiatives

1. Provide leadership from top institutional leaders and their administrative staffs for Tech Prep.

2. Establish a quality vision and policies for Tech Prep.

3. Establish broad quality goals for Tech Prep such as:
    - Improve educational options
    - Increase student academic competencies
    - Increase student technical competencies
    - Reduce student failures
    - Reduce course work repetition
    - Reduce administrative costs

4. Deploy the quality goals throughout participating institutions to identify tasks and assign responsibilities.

5. Provide the needed resources, including staff development.

6. Establish measurements.

7. Review performance regularly.

8. Create rewards to reinforce quality improvement.

Who to Involve

Key groups to involve in local evaluation are:

- secondary and postsecondary administrators, faculty, and counselors
- EFE system directors
- representatives of Tech Prep planning teams
- ISBE staff
- business and industry employers of graduates
- university faculty
- outside evaluation experts

When to Begin

Evaluation should begin in the planning phase and continue into the implementation phase, becoming a part of the ongoing operation of a Tech Prep initiative. Evaluators should be selected and begin working early in the planning process. The evaluation plan should be described in the executive-level articulation agreement.

A sample evaluation plan is included at the end of this chapter to provide suggestions for evaluating local Tech Prep planning processes. This evaluation plan is presented to help generate ideas for local Tech Prep initiatives.

Success Stories

Project leaders at **City Colleges of Chicago and Chicago Public Schools** indicated the importance of building benchmarks into the Tech Prep planning and implementation processes. Some areas for process evaluation measures proposed included:

- active curriculum revision with business and industry involvement
- evidence of feedback from the public schools
- commitment shown by civic, business, industry, labor, and community leaders
- increased broad-based awareness about Tech Prep
- use and adaptation of the Tech Prep model throughout participating institutions

Some areas that project leaders identified for evaluation outcome measures were:

- enrollment
- completion and graduation rates
- job placement
- evidence of meaningful work-based experience

An important first step has been taken by the Tech Prep project in recognizing the need for ongoing information. By identifying what is to be evaluated, plans can be made as to when and how to evaluate Tech Prep.

A unique feature of the Tech Prep initiative of **Franklin County Regional Delivery System, Rend Lake College, and the Rend Lake Area Regional Delivery System** was the development of a pilot model for collaboration of the State Goals for Learning, state and local objectives, and assessments with applied academics. The student assessment process will be used to:

- identify student interests
- provide input into selection of students into Tech Prep
- advise ninth grade students about course options
- assist guidance counselors in advising students about Tech Prep, its requirements, and the options it provides
- provide follow-up data
- provide measurable data for reporting student academic gains or deficiencies
- plan academic support services for students

Sample Evaluation Worksheet for Tech Prep Planning					
Sample Evaluation Questions	Data Collection Objectives	Data Collection Activities	Suggested Time Lines	Quality Indicators	Suggested Outputs
• Is the need for Tech Prep clearly shown?	• Identify the educational preparation needed by students for the workforce • Identify needs of business and industry for qualified workers	• Trends in the educational systems: - enrollment - attendance - dropouts - job placement - transfer • Trends in business and industry - feasibility study - need assessments - job market study - IOICC (supply and demand) data	• First 3 months of planning year	• Provides a clear indication of local factors that drive Tech Prep	• List of jobs available • List of program needs • List of overall educational needs for Tech Prep • Description of targeted students • List of constraints and problems
• Are key groups involved in meaningful ways?	• Ascertain the degree of active involvement of all key groups	• Survey targeted businesses, industries, schools, and colleges to determine: - populations served - level of commitment - level of participation	• First 6 months of planning year and then annually	• 50/50 partnerships between key groups	• Documentation of team contributions • Communication mechanisms • Organizational planning structure
• Is the planning process effective?	• Document the planning process and determine its level of effectiveness	• Monitor and describe the planning process • Survey and interview planners • Relate the planning process to goals and outcomes	• Throughout planning and implementation	• A well-defined local planning approach	• Local Tech Prep philosophy • Written plan • Functioning planning teams • Clearly articulated planning strategies

Appendices

Appendix A: Contributors

We would like to thank Tech Prep project directors and coordinators representing the 17 Tech Prep sites in Illinois for their valuable contributions in developing and writing this handbook. In addition, we'd like to thank those EFE system directors, area vocational center directors, school and college administrators, academic and technical faculty, guidance counselors, and local employers who took time from their busy schedules to meet with us and discuss their Tech Prep experiences. Special thanks is extended to our typist, Michael O'Neill, who showed patience and cooperation as we finalized the handbook. Gratitude is also extended to the following individuals who reviewed the handbook and offered valuable suggestions for revisions:

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Debra Hunter
Illinois Eastern Community Colleges

Sheri Kallembach
University of Illinois at Urbana-Champaign

Preston Morgan
Illinois Community College Board

Ron Sanderson
Lake Land Community College

Appendix B: Words of Advice

" Top management support from *all* participating schools, colleges, and businesses and industries is critical."

Gordon Kinkead
John Deere Harvester Works

" Inform parents about Tech Prep and its benefits to students. If parents believe in the program, it will have a much better chance of being a success."

Lloyd Cundiff
Elgin Community College

" Unlimited energy and unrelenting enthusiasm are critical skills needed by Tech Prep project directors and coordinators."

Julie Nichols
Career Education Associates of
North Central Illinois

" Don't try to go too fast or bite off too much; if the project mushrooms there is the risk of jeopardizing quality if things get too big too quickly."

Pamela Block
Northwest Suburban Career Cooperative

" The real selling point for Tech Prep will be students telling other students about their experiences and successes."

Donna Epton
Schaumburg High School

" Communication and coordination at all levels are key [to the success of Tech Prep]....Tech Prep is a major time commitment."

Kay Smoot
Champaign/Ford Vocational System

" Be prepared for frustrations and barriers....Involve teachers early in the planning process."

John Allen
Illinois Valley Community College

"The guidance and counseling component of Tech Prep is an important one. Counselors must ensure that students use Tech Prep as a steppingstone to the future."

Don Kaufman
Grundy Area Vocational Center

"Treat teachers and counselors as special people. This attitude is reflected in *extras* or *perks* that are meaningful and communicate a feeling of specialness to team members."

Don Johnson
Rock Valley College

"It is essential for teachers involved with Tech Prep to participate in staff development activities. Ongoing information sharing benefits teachers greatly."

Tina Boston
Deer Creek-Mackinaw High School

"The best way to identify academic and vocational faculty to participate in Tech Prep is to look for cooperative individuals who willingly volunteer."

J. D. Ross
Joliet Junior College

"Keep your long-range goal in mind, take small steps, and just keep moving."

Charles Baldwin
Parkland College

"The key strategy for implementing Tech Prep is to get as many people involved as possible."

Dave Kietzmann
Danville Area Community College

"Individuals involved in Tech Prep must possess vision, be willing and capable of sharing their vision, be able to recruit others from their organization, and be flexible and cooperative in working with others."

Sharon Wheeler
City Colleges of Chicago

Appendix C: 1990-1991 Tech Prep Initiatives' Profiles

Career Development System/
South Suburban College

Program Overview

The focus of the Tech Prep Associate Degree initiative at Career Development System (CDS) and South Suburban College has been on the medical careers program. This joint project has emphasized curriculum integration, career guidance services, and a high level of involvement by the Medical Professionals Committee. Academic and vocational staff from secondary and postsecondary levels have conducted a course content inventory to determine relevance to technical occupations.

Program Highlights

Curriculum Integration

- A matrix of secondary courses necessary for transition to two- or four-year institutions has been developed.
- Participating teachers have reviewed the content of key courses and have identified and categorized all workplace-based problems, examples, applications, and activities.
- A report identifying strengths and gaps in the workplace applications has been produced.
- "Workplace deficits" are being resolved with input from the Medical Professionals Committee, acquired samples from a national search, and teacher-developed products.
- A database of business applications will be built and a teacher resource guide developed for each course.
- Teachers working on curriculum integration in math and science have received a $300 stipend.

Medical Professionals Committee

- Fourteen representatives from various fields within the medical professions are serving on this committee.
- Practitioners with global perspectives have been selected as members.
- This committee will review the final draft of the Tech Prep medical course sequence matrix, link the identified course matrix to community college programs, field test and review the Tech Prep brochure, and identify workplace examples of integrated activities.

Career Guidance Services

- A Student Services Committee, made up of a well-coordinated group from the three secondary school districts and the community college, has been formed.
- A needs assessment has been conducted to identify critical tasks and activities.
- A subcommittee, made up of junior high representatives, secondary counselors, and community college counseling staff, has formulated a plan to identify resources, concerns, needs, and communication tools for explaining Tech Prep to students and parents.
- Committee members have focused attention on orienting junior and senior high school staff and students about the Tech Prep concept and benefits.

For more information about this initiative, contact either:

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City Colleges of Chicago/Chicago Public Schools

Program Overview

The Tech Prep initiative at City Colleges of Chicago and Chicago Public Schools (CPS) has developed from the Productive Chicago partnership established between Chicago City Colleges and Chicago's business community. The efforts of Productive Chicago have included an extensive labor market study determining business' needs and specific career growth areas for employment now and in the future. Partnering relationships have been emphasized through the early formation of implementation teams and their continued involvement throughout the planning process. The initial program, described as Career Prep, has focused on the manufacturing technology and financial services program areas.

Program Highlights

Implementation Teams

- Specialized implementation teams for planning, marketing, curriculum development, and evaluation have been formed for both program areas.
- Members serving on the implementation teams have been from Chicago Public Schools, the Economic Development Commission, City Colleges of Chicago, local businesses and industries, and labor organizations.
- Implementation teams have proven to be a more active and vital way for involving members in planning Career Prep.
- Regular, formal, two-hour working meetings with definite purposes, agendas, minutes, ground rules, and expected outcomes have been scheduled and held.

Leader Commitment

- The Productive Chicago partnership of top education and business leaders has been the driving force behind the manufacturing technology and financial services programs.
- Top leaders committed to Tech Prep include city officials, CEOs of major corporations, and the Chancellor of City Colleges.
- Leaders recruited for Tech Prep possess a vision, are willing and capable of sharing the vision, recruit other individuals from their organizations, are flexible, and develop cooperative working relationships.

Evaluation Measures

- Benchmarks of evaluation are being built into the Career Prep planning process. Planners suggest these benchmarks to determine the success of Tech Prep:
    - enrollments and graduation rates
    - job placement
    - meaningful work-based experiences
    - revised curriculum based on business and industry involvement
    - commitment shown by civic, business, industry, labor, and community leaders
    - increased awareness about Career Prep

For further information about Tech Prep at City Colleges of Chicago, contact:

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Danville Area Community College/ Vermilion County Education for Employment System

Program Overview

The Tech Prep initiative at Danville Area Community College (DACC) and Vermilion County Education for Employment System has been fostered by the efforts of Workforce Challenge 2000. Key groups involved in Workforce Challenge 2000 have provided support, commitment, data, and resources for Tech Prep. The result has been a collaborative effort by business and industry, education, and community representatives to plan for a better qualified work force. This cooperative effort has been achieved through a steering committee, five goal committees, and approximately 30 subcommittees. Based on local labor market data, the manufacturing cluster area has been targeted for Tech Prep in the first year.

Program Highlights

Business and Industry Collaboration

- Members of the Danville Area Manufacturing Alliance and Danville Area Service Alliance identified challenges facing education and work.
- Twenty-five focus groups provided data on local labor market needs.
- A Steering Committee made up of CEOs from local businesses and educational institutions has served as the strategic planning team for Tech Prep.
- Business and industry representatives have assisted in developing skill standards, determining program entry/exit skills, sharing resources and facilities, and designing curriculum content.
- DACC's President, who serves on the Steering Committee, has attended the monthly meetings of school superintendents in an effort to enhance communication about and support for Tech Prep.
- A special staff development workshop, called "Educational Summit", was conducted to inform teachers and business and industry representatives about the projected workforce shortage and how Tech Prep can address the problem.

Committee Structure

- A twenty-six member steering committee, made up of CEOs from business and industry, the President of DACC, the EFE System Director, and school superintendents and principals, identified five goals for Tech Prep.
- Five committees have been established and assigned to the task of determining specific objectives to accomplish each of the five goals.
- Thirty subcommittees have taken responsibility for multiple tasks associated with each objective and its accomplishment.
- An Advisory Committee has been established to conduct a task analysis that will become the basis for developing a core curriculum at Danville High School.
- Many teachers have volunteered to participate as members of one of the planning committees.

For further information about the DACC/Vermilion County EFE System initiative, contact either:

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Elgin Community College/
Northern Kane County Regional Vocational System

Program Overview

The Tech Prep initiative at Elgin Community College and Northern Kane County Regional Vocational System has grown from a commitment by top secondary and college administrators to develop an educational technology partnership to provide students with technical training. Top leaders have envisioned this partnership resulting in a capstone program that encourages students to invest early in acquiring math, science, and English skills. Thirteen programs are currently being developed in addition to the two pilot programs in CAD drafting and automotive technology offered this year.

Program Highlights

School/College Administrative Support

- Elgin Community College's President and superintendents of the three partnering high schools districts have committed to Tech Prep.
- Tech Prep has been viewed by administrators as a "partnering" program between secondary and postsecondary schools.
- Administrative leaders have developed a vision of Tech Prep and have communicated that vision in gaining commitment from others.
- An Advisory Committee, consisting of chairpersons from each program area, has been instrumental in planning Tech Prep.

Time-shortened Model

- High school students can attend Elgin Community College for two hours each afternoon.
- Those students attending Elgin Community College can earn 12-15 hours of college credit.
- Honors credit is granted to high school students completing college courses.
- High school districts have provided financial support, including the costs of tuition and transporting students to the college.
- Thirteen program areas are being articulated and planned for offering in the fall of 1991.
- High school students enrolled in college courses are mainstreamed into existing classes.

Marketing

- Information about Tech Prep has been sent to all high schools in the college district.
- Those students interested in Tech Prep have been given a tour of the college facilities.
- A special meeting explaining Tech Prep has been held for parents and interested students.
- Instructors have spoken with students and parents about Tech Prep and its options.
- Local newspapers have assisted in marketing Tech Prep and program options.
- Press releases will announce the accomplishments of first-year Tech Prep students.
- A brochure explaining Tech Prep has been mailed to parents of all ninth graders.
- A video and a special brochure have been developed to use in recruiting future students.
- First-year Tech Prep students are sharing their experiences with prospective students. Current enrollees say the classes have been much more demanding but their learning has increased 60-100%.

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Franklin County Regional Delivery System/Rend Lake College/ Rend Lake Area Regional Delivery System

Program Overview

The emphasis of Tech Prep at Franklin County Regional Delivery System, Rend Lake College, and Rend Lake Area Regional Delivery System has been on establishing a strong partnership between the private sector and all levels of education. To develop this partnering relationship, a Tech Prep Advisory Committee has been formed. The Advisory Committee has determined industry expectations for skill levels needed by industrial technicians. In addition, academic and vocational instructors have participated in an intensive inservice on applied academics and applied learning strategies. A unique feature of this Tech Prep initiative has been the development of a pilot model for collaboration of State Goals for Learning, state and local objectives, and assessments with applied academics.

Program Highlights

Business/Industry Involvement

- Twenty-two businesses are represented on the Tech Prep Advisory Committee.
- Advisory committee members include business and industry CEOs, university staff, union representatives, JTPA directors, and employment services representatives.
- CEOs and line personnel at their companies have given input about required skills for industrial technicians.
- A video has been developed, along with a script, explaining what business and industry needs are for skilled workers.
- In-depth tours of business and industry facilities have been provided for academic and vocational teachers and guidance counselors.
- CEOs have recognized the need for providing students with work experiences and are exploring several options including internships, apprenticeships, and mentoring relationships.
- Business and industry representatives have been asked to review and provide input on the math proficiency exam developed by secondary and postsecondary math instructors.

Student Assessment

- Most students in the regional delivery systems are tested in the Spring semester of their 8th grade year.
- Guidance counselors will use assessment scores to advise students about 9th grade course options and enrollment.
- Student test scores will assist guidance counselors in talking with students about Tech Prep, its requirements, and the various options it provides.
- The student assessment process will provide follow-up data on Tech Prep students.
- Students' interests are also assessed and will most likely be the number one criteria in selecting students for Tech Prep.
- Assessment outcomes will give measurable data for reporting academic gains or deficiencies of Tech Prep students.
- Assessment data will serve as the basis for planning academic support services.

For more information about the initiative, contact either:

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Illinois Central College/Peoria Educational Region for Employment and Career Training/ Tazewell County Area Education for Employment Regional System/ Central Illinois Vocational Education Co-op

Program Overview

The emphasis of Tech Prep at Illinois Central College and its regional systems has been on staff development and Tech Prep awareness. Staff development has been recognized as essential in "changing what's happening in the high schools." To effect such change, academic and vocational teachers must change the methodology of teaching math, science, and communications courses. To ensure the successful integration of academic and vocational courses, applied math materials and applied communications modules have been pilot-tested. Staff development activities have played a vital role in introducing twenty high schools in Peoria and Tazewell counties to the core courses that will be implemented.

Program Highlights

Applied Curriculum

- Staff development workshops on incorporating applied math and applied communications modules into existing courses have been offered.
- Sixteen teachers have pilot tested CORD's applied math materials.
- Twenty-four teachers of English and cooperative education courses have pilot tested AIT's applied communications modules.

Business and Industry Involvement

- An Advisory Council consists of nine members representing the four occupational program areas.
- The council's primary task has been to compile a list of entry-level competencies expected from graduates by business and industry leaders.
- The council has also made recommendations about curriculum content to ensure these identified competencies are obtained.

Articulation Agreements

- General articulation agreements between high schools and the community college have been reached.
- Some specific articulation agreements between the college and area high schools within the three EFE regions have been developed.
- Articulation agreements have been designed to prevent incoming community college students from repeating material covered in high school courses.
- After the college defined competencies taught in their basic classes, high school teachers reviewed the competencies and determined the degree to which these competencies are being covered in their courses.
- No credit is granted for proficiency of a basic class until a student has successfully completed the subsequent class.
- Articulation agreements are being viewed as a means of building consensus throughout the negotiation process.

For more information about Tech Prep at ICC and its regional systems, contact:

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Illinois Eastern Community Colleges/Twin Rivers Regional Vocational System/ Edwards-Wabash-Wayne-White Vocational Systems/Clay-Jasper-Richland Regional Vocational System

Program Overview

The Tech Prep initiative at Illinois Eastern Community Colleges and its regional vocational systems has emphasized establishing close working relationships among academic and vocational faculty, guidance counselors, and administrators through the efforts of the Development Committee. Great emphasis has been placed on educating committee members about the Tech Prep concept, how it can be applied to local schools and community settings, and its future benefits for students and businesses alike. To accomplish this, Development Committee members have toured secondary schools, Illinois Eastern Community Colleges, and various businesses and industries to gain the knowledge and sensitivity for developing a manufacturing technologies curriculum that meets industry needs while working effectively in each school.

Program Highlights

Business/Industry Collaboration

- Representatives from area businesses and industries have provided up-front commitment to Tech Prep and formed an Advisory Committee.
- Tours of manufacturing plants have been scheduled for academic and vocational faculty, guidance counselors, and administrators from all schools within the college's district.
- Business and industry representatives have made presentations at bimonthly planning team meetings.
- Industrial Advisory representatives are available to informally visit with tourees before, during, and after scheduled tours.

Marketing Strategies

- Promotional items have been designed and distributed to high school students (e.g., paper sunglasses with the Tech Prep logo).
- A Tech Prep Career Day for eighth grade students and incoming freshmen will be held.
- A Tech Prep brochure has been developed and distributed to students and parents in the community college district.
- A newsletter has been developed and mailed monthly to all high schools in Illinois Eastern's district and to all four college campuses.

Articulated Curriculum

- Delivery of certain courses is changing to include more applications and better integration of vocational and academic skills.
- Participating teachers are either developing application-oriented curriculum materials or selecting classroom materials from a list of curriculum resources.
- Cisne High School is making curriculum changes by refocusing and upgrading some of its general education courses to include more work-based applications.
- Oblong High School is piloting the Applied Communications curriculum modules.
- Mt. Carmel High School is incorporating applied communication modules into English I.

For more information about Tech Prep at IECC and its regional systems, contact either:

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Illinois Valley Community College/
Starved Rock Associates for Vocational & Technical Education

Program Overview

Tech Prep at Illinois Valley Community College and Starved Rock Associates for Vocational and Technical Education (SRAVTE) has focused on providing students with a rigorous educational foundation in communications, mathematics, sciences, social sciences, and technology. This has been achieved by integrating academic and technical curriculum areas and increasing students' abilities in critical thinking, reasoning, decision-making, and team building. Each pilot site has formed a team consisting of math, science, social science, language arts, and industrial technology teachers accompanied by a counselor. These interdisciplinary teams are developing a sequenced curriculum and identifying instructional strategies for the manufacturing technologies program.

Program Highlights

Staff Development

- A series of thirteen staff development workshops were scheduled during the Spring 1991 semester.
- The first workshop was a kick-off dinner and focused on explaining Tech Prep to the interdisciplinary team members.
- Most staff development workshops were scheduled from 4:00 p.m. to 6:00 p.m. on Thursdays.
- Speakers for workshops were selected for their expertise in certain subject or topic areas.
- Topics included team building, change agents, technology terminology and concepts, integrating academic and technical education, employability skills, applied math/applied communications, performance standards, and cooperative learning styles.
- In addition, two staff development workshops were devoted to strategic planning of Tech Prep at Illinois Valley and its regional system.
- One staff development workshop was a scheduled tour of a local manufacturing company.
- Synopses of staff development workshops were prepared, printed in a newsletter, and distributed to workshop participants, all high schools in the region, the community college, and area businesses and industries.
- Two full-day workshops have been scheduled for Tech Prep planners prior to the beginning of the Fall 1991 term.

Business/Industry Collaboration

- Representatives from local businesses and industries were invited to participate in all staff development workshops.
- Twenty businesses and industries agreed to provide summer internships for twenty-four academic and vocational teachers.
- Local businesses and industries provided tours for Tech Prep planners.
- An Industry Committee was formed of volunteers from key businesses and industries.
- Business and industry representatives served with administrators, faculty, and counselors on a planning committee.
- Representatives from businesses and industries participated in round table discussions about their roles in making Tech Prep a success.

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Joliet Junior College/
Three Rivers Education for Employment System

Program Overview

The focus of the initiative at Joliet Junior College and Three Rivers Education for Employment System (TREES) has been on building a solid foundation of support for Tech Prep by gaining commitments from top business and education leaders and involving them in the planning process. Based on existing articulation agreements between secondary schools and the junior college, the four program areas of agriculture/business, horticulture, transportation services, and computer aided design/drafting were chosen for the first-year effort. Special emphasis has been given to attracting special population students. The excellent cooperation between secondary schools, the college, and business and industry has been the driving force behind Joliet's planning success.

Program Highlights

Business/Industry Collaboration

- The Dean of Career & Instructional Services has made several formal and informal presentations to various community, business, and educational groups to market the Tech Prep concept and to obtain commitments.
- Presentations have been made at regular or special meetings of these professional organizations/committees:
  - Three Rivers Manufacturers Association Conference of Personnel Directors
  - Three Rivers Corridor Partnership for Excellence in Education Dinner Meeting
  - Tri-County Educational Service Center Meeting of Cadres
  - Blue Ribbon Committee Meeting

Planning Committees

- The Three Rivers Corridor Partnership for Excellence in Education is an 11-member committee formed from members of the Manufacturers Association and educational entities. The committee's original goal was to develop a new thrust for education and business collaboration and has been used to inform business and industry representatives about Tech Prep.
- The Blue Ribbon Committee, made up of Tech Prep experts, has provided input in defining the essential components of Tech Prep. Some of these components are that:
  - instruction integrates an academic core with technical competencies that prepare students for employment.
  - learning will be application-oriented and experience-based.
  - learning will be technology-centered and employment-based.
  - students will have an employer-based learning and/or work experience.
- The Student Attraction Team is composed of high school and community college counselors, advisors, teachers, special needs directors, and students.
- Teacher teams consisting of academic teachers, vocational teachers, and counselors have been formed with the responsibility for developing the Tech Prep curriculum.
- The Tech Prep Council, which is an advisory committee for Tech Prep, has offered input for developing the essential components identified by the Blue Ribbon Committee.

For additional information about the project, contact:

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Lake County Area Vocational System/
College of Lake County

Program Overview

The focus of Tech Prep at Lake County Area Vocational System and the College of Lake County has been on the development of comprehensive models for four program areas: business data processing, electronics, machine tool trades, and business secretarial occupations. A model for health occupations will be developed. Surveys of local businesses and industries identified skill levels expected for employment in the four technical program areas. These business and industry expectations have formed the foundation for curriculum planning and revision by teams of academic and vocational teachers from the five participating sites. Applied aspects of physics, math, and communications have been integrated into existing course content.

Program Highlights

Business/Industry Involvement

- A Leadership Advisory Committee, composed of CEOs and training directors from local businesses and industries, has provided input on a survey to determine knowledge, skills, and abilities needed by workers in occupations represented by the four program areas.
- Local businesses and industries have signed agreements to give priority hiring to Tech Prep graduates, provide internships for students, and provide summer VIP experiences for teachers and counselors.
- Business and industry representatives have made visits to all eighteen high schools in the Lake County region and have shown a willingness to provide resources.

Developing Ownership

- The focus has been on sharing ideas and getting everyone involved in planning Tech Prep.
- Superintendents of the five participating high schools, the President of College of Lake County, and the Director of Lake County Area Vocational System have signed a formal agreement of commitment and participation.
- Meetings have been held at each of the five secondary school sites to explain Tech Prep.
- A kickoff meeting, hosted by the College of Lake County, invited secondary school superintendents and principals, community college administrators, high school and college academic and technical faculty and guidance counselors, seventh and eighth grade guidance counselors, and business and industry representatives to hear about Tech Prep.

Student Recruitment

- A poster has been designed to assist in explaining Tech Prep to junior high students.
- A career cooperative representative has made numerous visits to elementary schools.
- A short video explaining Tech Prep and its benefits has been developed.
- Video discs, depicting people (particularly women and minorities) in various careers, have been purchased, placed in school libraries for students' use, and aired by local television stations.
- Open houses at the five participating high schools have been held.

For more information about Lake County's Tech Prep initiative, contact either:

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Lewis and Clark Community College/ Illinois Valley Regional Vocational System

Program Overview

The Tech Prep initiative at Lewis and Clark Community College and Illinois Valley Regional Vocational System has centered its attention on developing strong district-wide administrative support. The administrative support gained in each school district has been a key factor in planning Tech Prep. In addition, the three participating secondary school districts and the community college have formed faculty teams to assess and revise existing curriculum and course offerings. Program areas targeted this first year have been home economics and industrial technology.

Program Highlights

Developing Leader Support

- Project leaders have selected school sites that provide strong district-wide administrative support.
- Schools have been selected where a strong leader could be identified to initiate and facilitate planning tasks.
- A guidance counselor, academic teacher, vocational teacher, or principal have taken the lead for Tech Prep in each of the participating high schools.
- These leaders have recruited other planning team members by ensuring them of the importance of Tech Prep.
- Careful recruitment of school administrators and planning team members has laid the groundwork for developing ownership of Tech Prep.

Curriculum Development

- Academic and technical faculty at each site have revised curriculum to meet the needs of their students and area employers. Specific tasks of the teams are to:
  - assess the current curriculum and course offerings.
  - identify new courses to be developed.
  - target existing courses for revision.
  - explore alternative applied instructional methods appropriate for various disciplines.
- Calhoun High School's team has explored a district-wide school reform project that will include elementary, middle school, and high school faculty and students.
- The team at Jerseyville High School has explored academic/vocational integration strategies appropriate for both an agricultural and industrial Tech Prep model. A suggested course sequence has been identified, and student entrance criteria have been defined.
- The goal of Southwestern High School's team has been to revise the entire school curriculum by looking at student learning styles.
- The planning team at Lewis and Clark Community College has opted for using applied instructional strategies and materials in existing college prep and applied degree courses.

For additional information about the Tech Prep initiative, contact either:

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John A. Logan College/Williamson County Education for Employment Delivery System/ Jackson-Perry Counties Education for Employment Delivery System

Program Overview

The Tech Prep initiative at John A. Logan College and its regional delivery systems has focused on establishing cooperative efforts between academic and vocational teachers to enhance educational offerings for students. Tech Prep teams have been formed and consist of secondary and postsecondary administrators, guidance counselors, and faculty from the mathematics, science, communications, and vocational areas. The goal of each team has been to plan for the successful implementation of Tech Prep at each participating high school and the community college.

Program Highlights

Planning Teams

- Four teams have been formed to assist in integrating applied curriculum materials and methods in the academic areas.
- Teams have been divided into math, science, communications, and vocational areas.
- Teams have been represented by administrators, guidance counselors, and academic and vocational teachers from secondary schools and the community college.
- Team leaders for each group have been selected by team members.
- Academic teachers have served as leaders for the math, science, and communications teams.

Academic/Vocational Partnerships

- Academic and vocational teachers have displayed cooperative, energetic attitudes and are excited about Tech Prep.
- Academic teachers and vocational teachers have made presentations to various groups about Tech Prep and how it benefits students.
- Both academic and vocational teachers have led planning sessions.
- Participating academic and vocational teachers have taught summer workshops at Southern Illinois University for all interested academic and vocational teachers from across the state, as well as from within John A. Logan College and its regional systems.
- A growing linkage has developed between academic and vocational teachers with an understanding and admiration for what each is trying to accomplish.
- Academic and vocational teachers have recognized that much more can be accomplished if they cooperate and are willing to learn from, as well as teach, each other.

Academic/Vocational Integration

- Math, science, and communication teams have researched and investigated applied teaching materials.
- Teams have selected applied units to incorporate into traditional academic classes.
- Math, science, and communication team leaders conducted a workshop to disseminate information regarding applied teaching units to district high school teachers.

For more information about Tech Prep at John A. Logan College and its regional systems, contact:

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Joliet Junior College/ Three Rivers Education for Employment System

Program Overview

The focus of the initiative at Joliet Junior College and Three Rivers Education for Employment System (TREES) has been on building a solid foundation of support for Tech Prep by gaining commitments from top business and education leaders and involving them in the planning process. Based on existing articulation agreements between secondary schools and the junior college, the four program areas of agriculture/business, horticulture, transportation services, and computer aided design/drafting were chosen for the first-year effort. Special emphasis has been given to attracting special population students. The excellent cooperation between secondary schools, the college, and business and industry has been the driving force behind Joliet's planning success.

Program Highlights

Business/Industry Collaboration

- The Dean of Career & Instructional Services has made several formal and informal presentations to various community, business, and educational groups to market the Tech Prep concept and to obtain commitments.
- Presentations have been made at regular or special meetings of these professional organizations/committees:
    - Three Rivers Manufacturers Association Conference of Personnel Directors
    - Three Rivers Corridor Partnership for Excellence in Education Dinner Meeting
    - Tri-County Educational Service Center Meeting of Cadres
    - Blue Ribbon Committee Meeting

Planning Committees

- The Three Rivers Corridor Partnership for Excellence in Education is an 11-member committee formed from members of the Manufacturers Association and educational entities. The committee's original goal was to develop a new thrust for education and business collaboration and has been used to inform business and industry representatives about Tech Prep.
- The Blue Ribbon Committee, made up of Tech Prep experts, has provided input in defining the essential components of Tech Prep. Some of these components are that:
    - instruction integrates an academic core with technical competencies that prepare students for employment.
    - learning will be application-oriented and experience-based.
    - learning will be technology-centered and employment-based.
    - students will have an employer-based learning and/or work experience.
- The Student Attraction Team is composed of high school and community college counselors, advisors, teachers, special needs directors, and students.
- Teacher teams consisting of academic teachers, vocational teachers, and counselors have been formed with the responsibility for developing the Tech Prep curriculum.
- The Tech Prep Council, which is an advisory committee for Tech Prep, has offered input for developing the essential components identified by the Blue Ribbon Committee.

For additional information about the project, contact:

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Lake County Area Vocational System/ College of Lake County

Program Overview

The focus of Tech Prep at Lake County Area Vocational System and the College of Lake County has been on the development of comprehensive models for four program areas: business data processing, electronics, machine tool trades, and business secretarial occupations. A model for health occupations will be developed. Surveys of local businesses and industries identified skill levels expected for employment in the four technical program areas. These business and industry expectations have formed the foundation for curriculum planning and revision by teams of academic and vocational teachers from the five participating sites. Applied aspects of physics, math, and communications have been integrated into existing course content.

Program Highlights

Business/Industry Involvement

- A Leadership Advisory Committee, composed of CEOs and training directors from local businesses and industries, has provided input on a survey to determine knowledge, skills, and abilities needed by workers in occupations represented by the four program areas.
- Local businesses and industries have signed agreements to give priority hiring to Tech Prep graduates, provide internships for students, and provide summer VIP experiences for teachers and counselors.
- Business and industry representatives have made visits to all eighteen high schools in the Lake County region and have shown a willingness to provide resources.

Developing Ownership

- The focus has been on sharing ideas and getting everyone involved in planning Tech Prep.
- Superintendents of the five participating high schools, the President of College of Lake County, and the Director of Lake County Area Vocational System have signed a formal agreement of commitment and participation.
- Meetings have been held at each of the five secondary school sites to explain Tech Prep.
- A kickoff meeting, hosted by the College of Lake County, invited secondary school superintendents and principals, community college administrators, high school and college academic and technical faculty and guidance counselors, seventh and eighth grade guidance counselors, and business and industry representatives to hear about Tech Prep.

Student Recruitment

- A poster has been designed to assist in explaining Tech Prep to junior high students.
- A career cooperative representative has made numerous visits to elementary schools.
- A short video explaining Tech Prep and its benefits has been developed.
- Video discs, depicting people (particularly women and minorities) in various careers, have been purchased, placed in school libraries for students' use, and aired by local television stations.
- Open houses at the five participating high schools have been held.

For more information about Lake County's Tech Prep initiative, contact either:

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Lewis and Clark Community College/
Illinois Valley Regional Vocational System

Program Overview

The Tech Prep initiative at Lewis and Clark Community College and Illinois Valley Regional Vocational System has centered its attention on developing strong district-wide administrative support. The administrative support gained in each school district has been a key factor in planning Tech Prep. In addition, the three participating secondary school districts and the community college have formed faculty teams to assess and revise existing curriculum and course offerings. Program areas targeted this first year have been home economics and industrial technology.

Program Highlights

Developing Leader Support

- Project leaders have selected school sites that provide strong district-wide administrative support.
- Schools have been selected where a strong leader could be identified to initiate and facilitate planning tasks.
- A guidance counselor, academic teacher, vocational teacher, or principal have taken the lead for Tech Prep in each of the participating high schools.
- These leaders have recruited other planning team members by ensuring them of the importance of Tech Prep.
- Careful recruitment of school administrators and planning team members has laid the groundwork for developing ownership of Tech Prep.

Curriculum Development

- Academic and technical faculty at each site have revised curriculum to meet the needs of their students and area employers. Specific tasks of the teams are to:
  - assess the current curriculum and course offerings.
  - identify new courses to be developed.
  - target existing courses for revision.
  - explore alternative applied instructional methods appropriate for various disciplines.
- Calhoun High School's team has explored a district-wide school reform project that will include elementary, middle school, and high school faculty and students.
- The team at Jerseyville High School has explored academic/vocational integration strategies appropriate for both an agricultural and industrial Tech Prep model. A suggested course sequence has been identified, and student entrance criteria have been defined.
- The goal of Southwestern High School's team has been to revise the entire school curriculum by looking at student learning styles.
- The planning team at Lewis and Clark Community College has opted for using applied instructional strategies and materials in existing college prep and applied degree courses.

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John A. Logan College/Williamson County Education for Employment Delivery System/ Jackson-Perry Counties Education for Employment Delivery System

Program Overview

The Tech Prep initiative at John A. Logan College and its regional delivery systems has focused on establishing cooperative efforts between academic and vocational teachers to enhance educational offerings for students. Tech Prep teams have been formed and consist of secondary and postsecondary administrators, guidance counselors, and faculty from the mathematics, science, communications, and vocational areas. The goal of each team has been to plan for the successful implementation of Tech Prep at each participating high school and the community college.

Program Highlights

Planning Teams

- Four teams have been formed to assist in integrating applied curriculum materials and methods in the academic areas.
- Teams have been divided into math, science, communications, and vocational areas.
- Teams have been represented by administrators, guidance counselors, and academic and vocational teachers from secondary schools and the community college.
- Team leaders for each group have been selected by team members.
- Academic teachers have served as leaders for the math, science, and communications teams.

Academic/Vocational Partnerships

- Academic and vocational teachers have displayed cooperative, energetic attitudes and are excited about Tech Prep.
- Academic teachers and vocational teachers have made presentations to various groups about Tech Prep and how it benefits students.
- Both academic and vocational teachers have led planning sessions.
- Participating academic and vocational teachers have taught summer workshops at Southern Illinois University for all interested academic and vocational teachers from across the state, as well as from within John A. Logan College and its regional systems.
- A growing linkage has developed between academic and vocational teachers with an understanding and admiration for what each is trying to accomplish.
- Academic and vocational teachers have recognized that much more can be accomplished if they cooperate and are willing to learn from, as well as teach, each other.

Academic/Vocational Integration

- Math, science, and communication teams have researched and investigated applied teaching materials.
- Teams have selected applied units to incorporate into traditional academic classes.
- Math, science, and communication team leaders conducted a workshop to disseminate information regarding applied teaching units to district high school teachers.

For more information about Tech Prep at John A. Logan College and its regional systems, contact:

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Northwest Suburban Career Cooperative/
William Rainey Harper College

Program Overview

The Tech Prep initiative at Northwest Suburban Career Cooperative and William Rainey Harper College has relied on strong support from top business and industry and educational leaders. Interest in Tech Prep has evolved from a need identified a few years ago for qualified workers in the office skills area. Twenty-five focus groups have provided initial support for the Tech Prep direction. Members of the General Advisory Committee of business and industry representatives have been valuable in assuming a leadership role and in selling the Tech Prep concept. Currently, the initiative includes Corporate Careers at three high schools and Drafting/CAD, Electronics, Manufacturing, Heating and Cooling Technology, and Fire Science Technology at twelve high schools.

Program Highlights

Business/Industry Collaboration

- A retired business executive has been instrumental in marketing Tech Prep to local businesses and industries and in obtaining their participation in planning the initiative.
- To date, 75 companies have been actively involved with the Tech Prep initiative.
- Summer internships will be offered to academic and vocational teachers, guidance counselors, and administrators.
- Businesses and industries currently provide students with summer internships that pay $6.00-6.50 per hour and for which college credit will be granted.
- Summer internships offered between grades 12 and 13 will provide career exploration opportunities, while second-summer internships (between grades 13 and 14) will focus on concentrated experiences in particular departments and jobs within a company.
- Mentors may be used to provide students with additional work-related experiences.
- Business and industry sites are being used for district staff meetings.

Marketing Strategies

- Student recruitment, application, and selection procedures have been implemented.
- Dinner meetings have proven to be most effective in spreading the message about Tech Prep to educators and business and industry representatives.
- Senior Managers' Luncheons for executives of participating educational and business organizations have been effective in communicating the Tech Prep concept and in gaining commitment.
- Presentations at school board meetings have helped to gain continued support.
- Mailers have been sent to all 30,000 high school students in the Cooperative's region.
- Special Tech Prep Coordinators who will assist in orienting teachers and guidance counselors about Tech Prep have been selected for each high school.
- A letter has been mailed from some schools to students with GPAs in the range of 2.0 to 3.3 explaining Tech Prep and its options.
- Video and slide presentations have been made to share Tech Prep with academic and vocational teachers, guidance counselors, and administrators.
- Attractive brochures have been disseminated to schools, parents, students, and businesses.

For more information about Tech Prep at Northwest Suburban Career Cooperative, contact:

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Parkland College and
Champaign/Ford Vocational System

Program Overview

The Tech Prep initiative at Parkland College and Champaign/Ford Vocational System has reinforced an earlier effort by local high school superintendents and principals and Parkland College administrators to provide a joint technology program to serve general education students. A Tech Prep manufacturing technologies curriculum model has been developed through consultation and collaboration among secondary and postsecondary educators and business and industry leaders. Articulation agreements for the manufacturing technologies program curriculum have been made with three participating high schools in the Parkland College district. In addition, a 2+2 program for electronics has been articulated with Illinois State University.

Program Highlights

Implementation Strategies

- An articulated curriculum in manufacturing technologies was developed by Parkland's Advisory Committee and faculty and completed by November 1990.
- Early development of the curriculum ensured the Tech Prep option was printed in the participating high schools' handbooks for students' and parents' consideration.
- To encourage greater commitment and involvement of academic and vocational faculty, a new position, the liaison/team teacher, was established.
- The liaison/team teachers selected will attend classes at Parkland College with high school students, team teach technical courses, and mentor these students.
- An orientation session, held at Parkland College for the thirty students selected to begin their Tech Prep studies in the Fall 1991 semester, included visits to technology labs and meetings with teachers and staff.
- Contingency plans for the three-week difference between participating high schools' and Parkland College's calendars are to have high school students touring local business and industry facilities and attending sessions on career planning and employability skills.

Advisory Committee Structure

- Five working advisory committees have been established and made up of teachers, guidance counselors, and administrators from secondary schools, the EFE system, postsecondary institutions, as well as local businesses and industries.
- The Leadership Committee is a fourteen-member committee that provides direction and makes final decisions in planning the Tech Prep initiative.
- The Curriculum Development Committee, made up of eleven members, has responsibility for developing and approving the Tech Prep curriculum.
- The Marketing/Promotion Committee, consisting of nine members, is responsible for preparing and disseminating materials about Tech Prep to internal and external audiences.
- The Coordination/Implementation Committee, served by eleven members, is involved in determining policies and guidelines for ensuring the smooth implementation of Tech Prep.
- An Evaluation Committee, represented by eight members, will establish criteria and guidelines for evaluating the Tech Prep initiative.

For more information about Tech Prep at Parkland College and its regional system, contact either:

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Quad Cities/Tri-County Vocational Region/ Black Hawk College

Program Overview

The focus of Tech Prep at Quad Cities/Tri-County Vocational Region/Black Hawk Community College has been on providing all students with skills for higher education as well as job opportunities. To accomplish this, a comprehensive model, applicable to all program areas, has been implemented. A Core Group Planning Committee, composed of education and business and industry representatives, utilized the DACUM approach to define core knowledges and skills needed by students in three occupational cluster areas: business, human services, and engineering. Private sector representatives have worked with academic and technical educators at each of the four pilot sites to identify competencies for specific programs.

Program Highlights

Curriculum Development

- Business and industry representatives have identified the competencies, knowledge, and skills needed by all students.
- Private sector representatives, working with academic and technical faculty, have identified specific program competency areas.
- The Core Group Planning Committee, composed of representatives from academic and vocational program areas, secondary and postsecondary areas, and business and industry, has developed a core curriculum based on DACUM.
- The focus of curriculum is on integrating academic and vocational content and developing skills in critical thinking, team building, decision making, and problem solving.

Business/Industry Involvement

- The Training Coordinator at John Deere Harvester Works has served as the full-time Tech Prep project coordinator.
- Representatives from John Deere have made presentations about Tech Prep to Chambers of Commerce and other local audiences.
- Eight business and industry representatives have worked with educators on the DACUM matrix of knowledge and skills necessary to work in the three career cluster areas.
- Local businesses have committed to providing internship experiences for Tech Prep students.

Planning Team Structure

- A Planning Core Team is represented by members from all four Tech Prep pilot sites.
- Each of the pilot sites has a design team made up of academic and technical faculty from secondary and postsecondary schools and representatives of local businesses and industries.
- Secondary school administrators have selected lead teachers, and lead teachers and their principals have selected other team members.
- Business and industry representatives from key industries have volunteered to serve on the design teams.
- Community college members have been designated by their involvement on the college articulation committee.

For more information about the Quad Cities project, contact either:

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Rock Valley College and
Career Education Associates of North Central Illinois

Program Overview

The focus of Tech Prep at Rock Valley College and Career Education Associates of North Central Illinois (CEANCI) has been on improving the math, science, communications, and technical competencies of students. To bring about such improvements, changes in all classrooms must occur, which means that teaching and counseling staff must be recognized as the key change agents. The result of this philosophy has been the formation of interdisciplinary teams of academic teachers, vocational teachers, and guidance counselors working together to develop work-related, practical curriculum to implement a Tech-Prep manufacturing program. Performance standards, identified by business industrialists, have provided the basis for developing meaningful, practical applications for classrooms.

Program Highlights

Team Building

- Seven teams representing the six participating high schools and Rock Valley College have been formed.
- Each team consists of five members: a math teacher, science teacher, communications teacher, technical teacher, and guidance counselor. The teams have been supported by two business industrialists and a high school principal.
- Team members have been viewed as "champions" of Tech Prep and quality education.
- The focus is on collaboration between team members through a philosophy that integration cannot be achieved by isolating disciplines.
- A key outcome is an integrated, articulated secondary and postsecondary curriculum.

Staff Development

- Inservice workshops were scheduled twice per month during the spring semester of 1991.
- Participants earned six graduate credit hours from Northern Illinois University upon completion of over 100 hours of training.
- Participants received a stipend of $625 for attendance and completion of training.
- Topics included team building, learning styles, cooperative learning, curriculum integration, and articulation agreements.
- The Tech Prep project director and coordinator were highly involved in the workshops.
- Summer industrial internships and dialogue with different industries were conducted.

Business/Industry Involvement

- The Industrial Advisory Committee, composed of 25 CEOs from Rockford area businesses and industries, has been formed.
- This committee was divided into two subcommittees: one for summer internships and one for marketing and support of the education teams.
- Responsibilities of the industrialists have been to provide tours of their facilities; provide summer internships for students, faculty, and counselors; define educational needs of their employees; and determine needed academic areas of emphasis.

For more information about the RVC/CEANCI project, contact either:

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West Central Region of Education for Employment/ John Wood Community College

Program Overview

The Tech Prep philosophy at West Central Region EFE and John Wood Community College has been on facilitating change within the community college, area vocational center, and West Central Region EFE systems. Tech Prep planners have recognized that this change must begin with course content and methods of instruction. The result has been the implementation of applied academics, integration of math into vocational classes, and the involvement of business and industry representatives as classroom team teachers. An Advisory Committee has identified skills needed for employment in CAD/CAM and CIM related occupations.

Program Highlights

Business/Industry Involvement

- Representatives from local businesses and industries have team taught with school and college faculty, including making special presentations about their jobs and companies.
- Businesses and industries have provided tours of their facilities for vocational and academic teachers, guidance counselors, and administrators.
- Businesses and industries have committed to providing internships for Tech Prep students.
- Representatives from business and industry have served on a Math Task Force to define math skills needed in the workplace.
- Some businesses and industries are exploring priority hiring and guaranteed placement of Tech Prep graduates and have donated equipment for classroom instruction.

Math Task Force

- Junior and senior high school teachers and counselors have served on the Math Task Force with business and industry representatives to identify math skills required in the workplace.
- A survey of employees has been conducted to determine how they use math in the workplace and which math skills they lack.
- In evaluating the math curriculum, the committee has reviewed the sequence of math skills.
- Two respected math teachers were sent for a two-day inservice training workshop on incorporating applied math curriculum modules into classroom instruction.
- These two teachers will train other math teachers at their schools on how to incorporate the applied modules into existing math courses.

Student Services Committee

- Guidance counselors from the regional system volunteered to serve on this committee.
- Committee members have participated in local business and industry tours.
- Committee members view their role as marketers of Tech Prep to students, academic and vocational teachers, administrators, and other guidance counselors.
- Committee members have also assisted in marketing Tech Prep to parents, business and industry representatives, and the community.
- Committee members are enthusiastically supporting the applied curriculum and recommending Tech Prep to students.

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Appendix D: Suggested Resources

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